Next Generation Critical Cooling
for Room and Row

Liebert PEX

Efficiency And Reliability For High Availability Cooling

Technical Data Manual

EMERSON
Network Power

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Introduction

The Liebert PEX is the new generation precision air conditioning system from Emerson Network Power. The Liebert PEX is the very latest in a long line of advanced products from the Liebert family designed to support business-critical applications.

Sensitive electronics must be maintained in a stable environment of 20°C to 25°C with a relative humidity of 40% to 55% . Precision air conditioning systems must not only keep room conditions within this range, they must have the precision to react quickly to fluctuations in heat load and prevent wide temperature fluctuations.

Liebert PEX units are specifically developed for applications requiring close environmental control:

- Data Centres
- Telecom/CATV
- Computer Rooms
- Labs and Test Rooms
- Network Centres
- Production Facilities

The Liebert PEX Advantage
Only the Liebert PEX can give you all these advantages:

- Comprehensive local support.
  Full pre-sales and post-sales support is readily available, anytime you need it.

- Customisation expertise.
  Liebert PEX units can be customised to suit your requirements, with expertise and assistance from local Engineering teams.

- Full Service capability
  Factory-trained Customer Service Engineers provide backup support 24 x 365.

- Established company
  Emerson Network Power has been designing and manufacturing precision environmental control systems for over 45 years.

Liebert PEX Large Frame Downflow unit

Downflow models available with
- FC Forward Curve fans
- EC Backward Curve fans with in-floor operation which is the optimum position for energy efficient performance
- The fans are serviceable and removable from the front of the units above the raised floor whilst the EC fan models are supplied with a lifting/lowering device for start up & service access

With front (removable) doors open

Liebert PEX Large Frame Upflow unit

Upflow models available with
- FC Forward Curve fans
- EC Backward Curve fans
- The fans are serviceable and removable from the front of the unit.

With front (removable) doors open

Configuration Nomenclature

The basic model can be defined by first 10 digits whilst the unit is fully defined by 25 digits.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
P	2	0	5	0	D	A	5	3	S	H	L	1	2	4	1	0	0	0	0	P	0	0	0	0

Digit 1 Model Range
- **P** PEX

Digit 2 Modules
- **2** Number of Modules/Bays

Digit 3 Cooling Capacity kW
- **0-9** Nominal Gross Cooling Capacity - kW

Digit 4 Cooling Capacity kW
- **0-9** Nominal Gross Cooling Capacity - kW

Digit 5 Cooling Capacity kW
- **0-9** Nominal Gross Cooling Capacity - kW

Digit 6 Air Discharge
- **U** Upflow
- **D** Downflow

Digit 7 System Type
- **A** Air Cooled
- **W** Water Cooled
- **G** Glycol Cooled
- **D** Dual Cool - chilled water + air cooled
- **H** Dual Cool - chilled water + water cooled
- **F** Free Cool
- **C** Chilled Water
- **R** Chilled Water Dual Source

Digit 8 Airflow
- **1** EC Plug fan - Standard Static
- **S** Forward Curved fan - Standard Static

Digit 9 Power Supply
- **3** 400V / 3ph / 50Hz+N
- **T** 380V / 3ph / 60Hz - Chilled Water Only
- **A** 460V / 3ph / 60Hz - Chilled Water Only

Digit 10 Compressor & Refrigerant
- **C** Compliant Scroll Single Circuit R407C
- **S** Compliant Scroll Dual Circuit R407C
- **E** Digital Scroll Single Circuit R407C
- **D** Digital Scroll Dual Circuit R407C
- **J** Compliant Scroll Single Circuit R22
- **F** Compliant Scroll Dual Circuit R22
- **2** CW Two way Valves Standard Pressure
- **3** CW Three way Valves Standard Pressure

Digit 11 Humidification
- **0** None
- **H** Infrared Humidifier
- **S** Electrode humidifier

Digit 12 Display
- **S** Small Display 1 TH Sensor
- **L** Large Display 1 TH sensor

Digit 13 Re-Heating
- **0** None
- **1** Electric heating Std 1 Stage
- **2** Electric heating Opt. 2 nd Stage Up

Digit 14 Filtration
- **2** G4 (EU4) gravimetric (ref MERV 8) + Clogged Filter
- **3** F5 (EU5) dust spot + Clogged Filter

Digit 15 Coil and Valves
- **S** Standard Dx Air Cooled Coil
- **4** Coil DX -All valves High Pressure MBV, DX - 2 way, CW coil 2 way
- **K** Coil DX -All valves High Pressure, MBV, DX - 3 way, CW coil 3 way
- **N** Coil DX -All valves High Pressure MBV, DX - 2 way, CW coil 3 way
- **P** Coil DX -All valves High Pressure, MBV, DX - 3 way, CW coil 2 way

Digit 16 Enclosure options
- **1** Standard Color Charcoal grey
- **2** Colour Special color
- **6** Color Charcoal grey w/Double skin

Digit 17 Mains Switch High Voltage Option
- **0** None
- **D** Main non-Locking Disconnect

Digit 18 Lock Out Low Voltage Option
- **0** None
- **H** Reheat & Humidity Lockout

Digit 19 Monitoring
- **0** Monitoring - No Card
- **1** Monitoring - IS WEB only
- **2** Monitoring - Two ISWEB
- **3** Monitoring - IS485 only
- **4** Monitoring - Two IS485
- **5** Monitoring - ISWEB & IS485
- **6** Monitoring - iCOM DO
- **D** Monitoring - ISWEB & iCOM DO
- **E** Monitoring - Two ISWEB & iCOM DO
- **F** Monitoring - IS485 & iCOM DO
- **G** Monitoring - Two IS485 & iCOM DO
- **H** Monitoring - ISWEB & IS485 & iCOM DO

Digit 20 Sensors
- **0** None
- **S** Smoke Sensor
- **H** High Temperature
- **N** Hot and Cold Isle Sensor A & Sensor B (In addition to Standard Sensor)
- **F** Smoke & High Temp

Digit 21 Packaging
- **P** Packaging - Standard
- **C** Packaging - Wooden Crate Export

Digit 22 Special Requirements
- **A** SFA - none
- **Z** For internal use only
- **T** For internal use only
- **C** For internal use only

Digit 23 Order Identifier
- **0** None
- **1** High ESP 100 Pa
- **2** High ESP 200 Pa
- **3** High AirFlow/ESP other
- **X** SFA included

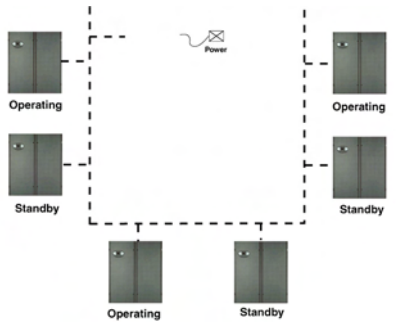
Digit 24 Order Identifier
- **0** None
- **L** Air Cooled - Long Pipe Run Kit > 30 metres
- **X** SFA included

Digit 25 Order Identifier
- **0** None
- **X** SFA included

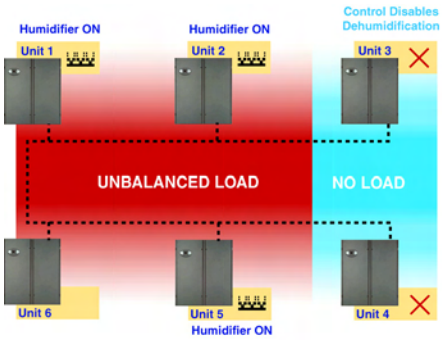
Features and Benefits

iCOM - Intelligent Communications and Monitoring

The Liebert iCOM™ control system offers the highest capabilities of unit control, communication and monitoring of Liebert mission-critical cooling units. Liebert iCOM provides advanced diagnostic and maintenance support, enabling multiple units to communicate and work together as a team to precisely control temperature and humidity across a room. In addition, the iCOM network provides a choice of Teamwork, Lead/Lag and Cascade functions.



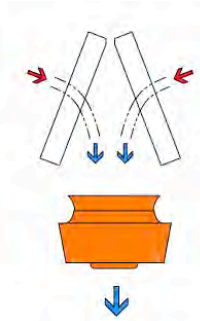
Unit to Unit Configuration



Teamwork Mode

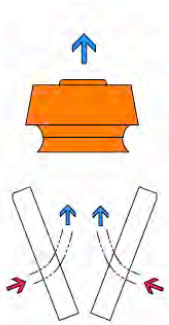
A-Frame or V-Frame Evaporator Coils

- High efficiency heat exchanger design features an A-Frame coil for downflow and V-Frame coil for upflow for precise control of cooling and dehumidification, designed to optimise heat transfer and minimise air side pressure drop
- Draw-through design pulls air evenly through the large face area cooling coil to maximise heat transfer efficiency
- Double-angle condensate trays ensure correct water drainage.



A-Frame Coil

Down Flow



V-Frame Coil

Up Flow

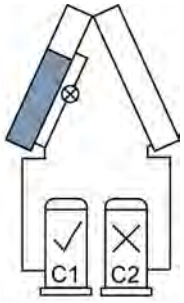
High Sensible Heat Ratio (SHR)

- All models operate high sensible heat ratios to match the low latent loads of modern computer rooms and telephone exchanges etc.
- With low latent capacity, little moisture is removed from the air so that humidity levels can be maintained without extra humidification, thereby ensuring lower energy consumption

High Airflow

- High airflow achieves favourable sensible heat ratios and provides maximum air change rate to ensure variations in room load are quickly detected and responded to.

Features and Benefits



DX Systems - Dehumidification Cycle (FC Fans)

- Compressorised models with forward curve (FC) fans employ split coil configurations, allowing latent cooling capacity to be substantially increased but only as required so that energy consumption is minimised whilst providing close temperature and humidity control. Room loads as low as 35% of unit cooling capacity can be supported with standard reheat.
- Smaller heater size and unit full load amps (FLA) lowers electrical connection requirements and reduces installation costs

DX Systems - Dehumidification Cycle (EC Fans)

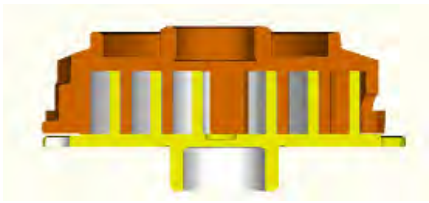
- Compressorised models with backward curve (EC) fans employ reduced airflow in conjunction with compressor operation for dehumidification to further minimise energy consumption whilst providing close temperature and humidity control.

DX Systems - EC Fans and Digital Scroll Compressors

Digital Scroll Capacity Modulation – How it works

- Takes Advantage Of Copeland Scroll Axial Compliance
- When Scrolls Are Separated Axially (~ 1.0 mm), No Gas Flow
- When Scrolls Are In Contact, 100% Gas Flow
- 20-100% Continuous Capacity

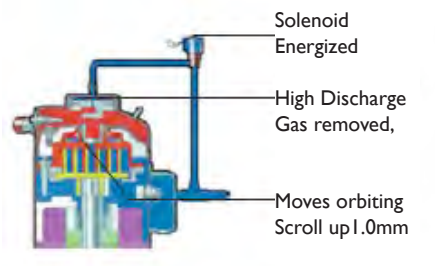
Scroll Separated - No Pump



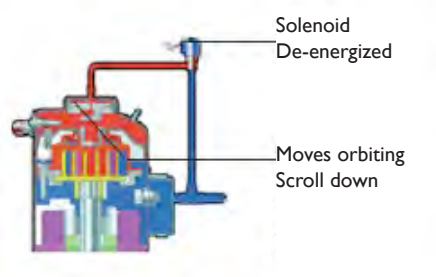
Scrolls in contact - Pumping

Digital Scroll How it works

- Digital compressor alternates two different working states: the loaded state and the unloaded one

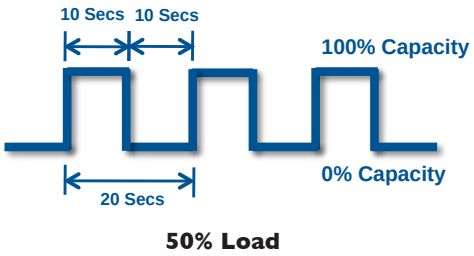


Unload State

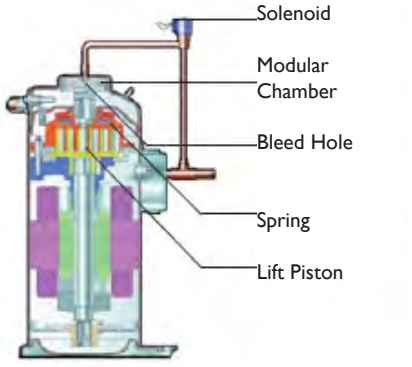


Load State

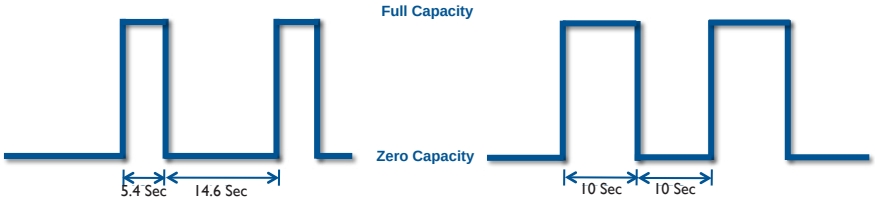
- A solenoid valve the controller approaches and moves away the rotating scroll and the fixed one, using the axial compliance
- An entire cycle lasts 20 seconds (Nominal default setting)



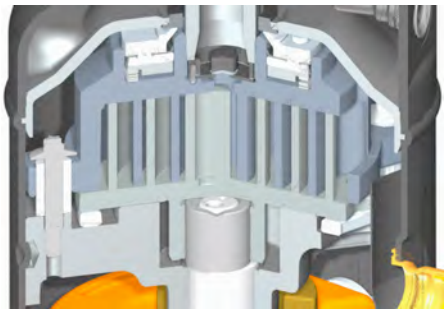
50% Load



Digital Scroll Capacity Modulation examples



27% of full capacity **50% of full capacity**

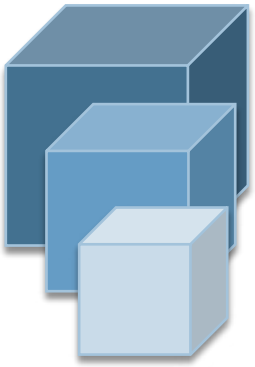


Application of Digital Scroll in Liebert PEX

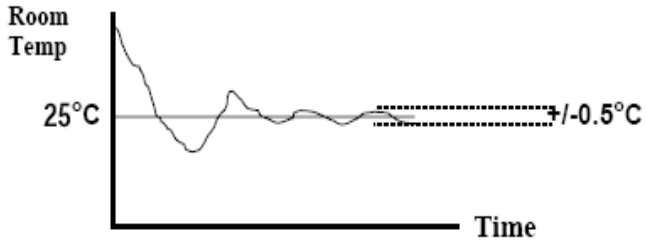
- Better room condition control by adapting to the load
- Better temperature control by adapting to latent conditions
- Better humidity control by adapting to RH% (latent) conditions
- Improved reliability by avoiding cycling
- Lower operating costs due to more efficient operation
- Available on Air Cooled, Water Cooled, Glycol Cooled, Dual Cool and Free Cool models
- Both compressors are Digital Scroll type on 2 compressor models

Liebert PEX Digital – Key Benefits

- No Electromagnetic Interference
- Easy Oil Return
- Flexibility
  - Immediate adaptation to changing load
  - Energy saving solution
  - Capability to grow together with your business
- Precise Control
  - More precise room temperature control

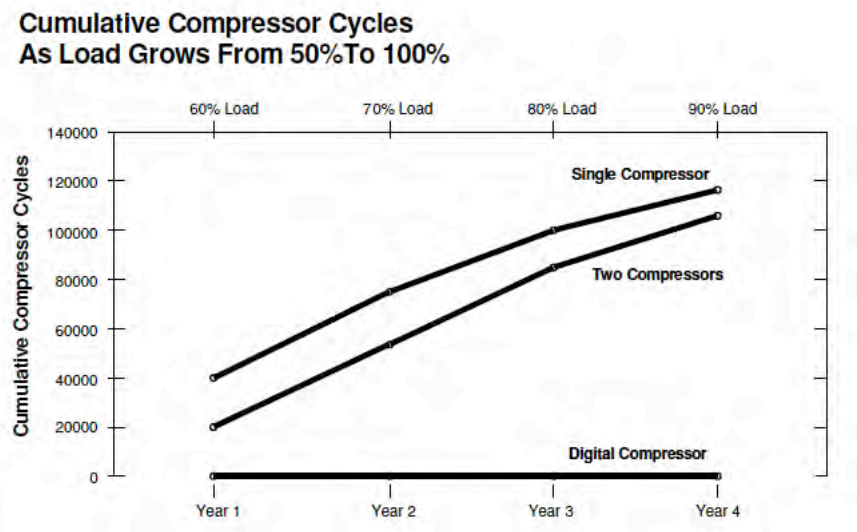


Modulating Capacity Control from 10 to 75kW



Increased Reliability and Compressor life

- Increasing compressor cycling takes a toll on compressor life.
- Liebert Digital Scroll compressors automatically adjust to yearly increase in heat load, providing significantly greater component life than other compressor technologies.

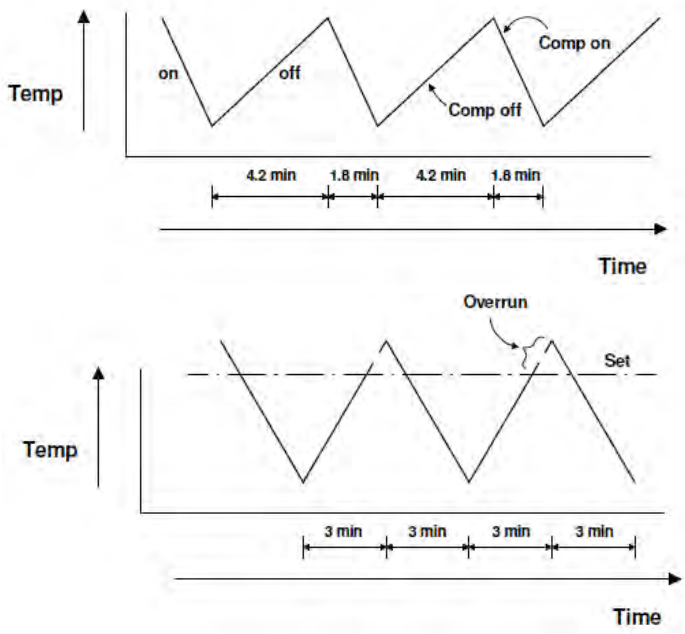


Liebert PEX – The combination of Digital Scroll Compressor and EC Fans to provide the Ultimate Energy Machine

- **A combination of 3 energy saving features to provide up to 50% energy savings**
- **Digital Scroll**
  - **Capacity modulation**
  - **Energy saving**
  - **Quick adaptation to changing heat loads**
- **EC Fans**
  - **Variable air flow**
  - **Energy saving**
- **iCOM Control**
  - **'Intelligent' control combines operation of the Digital Compressors and EC fans.**

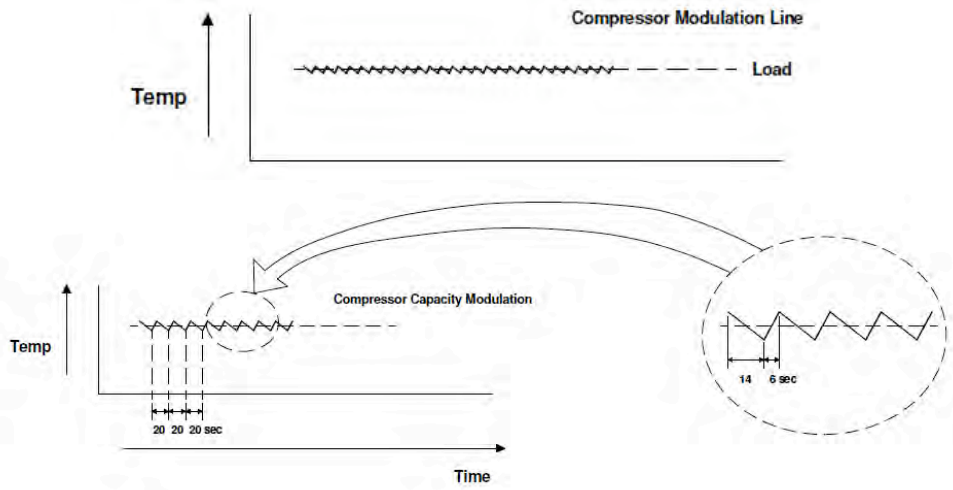
Standard Compressor and EC fan system

- Capacity variation is derived by cycling the compressor ON or OFF to meet the room load e.g. for a room load of 7kW with a 10kW unit, the compressor would be required to operate 70% of the time say 3.5 minutes on for 1.5 minutes off.
- However for reliability requirements the compressor normally needs to be on for 3 mins and off for 3 mins. irrespective of temperature requirements.
- So the saw tooth effect is even more exaggerated



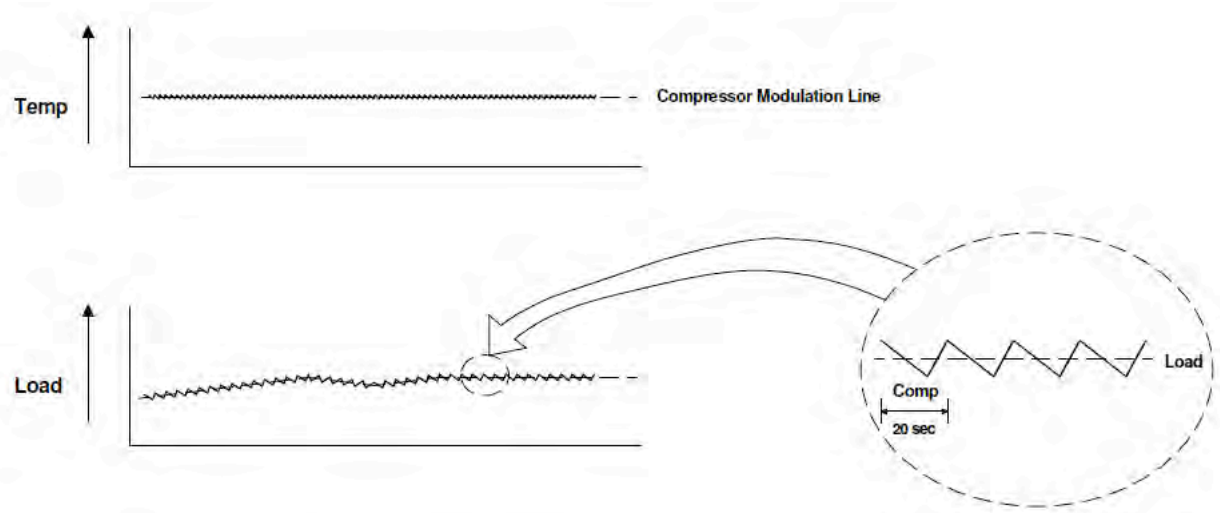
Digital Scroll Compressor

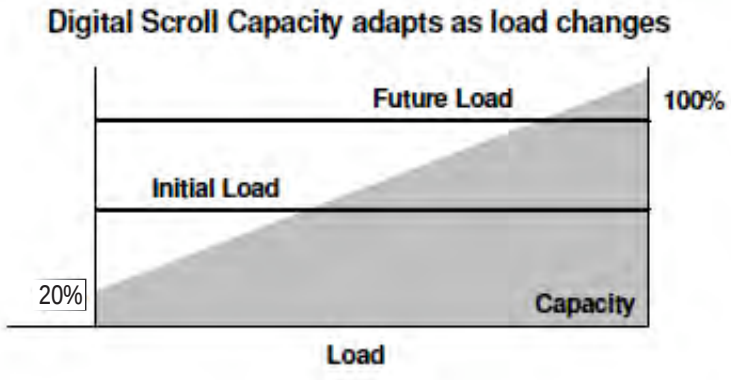
- Cooling Capacity is provided by capacity modulation of the compressor
- Therefore the refrigeration capacity provided by each compressor is 20% to 100% of full capacity
- Capacity variation is derived by capacity modulation of the Digital scroll compressor from a loaded state to an unloaded state in 20 second band to meet the cooling capacity requirement e.g. for a room load of 7kW with a 10kW unit the Digital Scroll compressor the compressor would be loaded for 14 seconds and unloaded for 6 seconds
- The cycle time of around 6% of a standard on / off type compressor system
- This provides a precise temperature control showing an almost linear line temperature graph
- Since the digital scroll compressor does not have to cycle on and off to meet the room load it's reliability further increased



The Ultimate system Digital Scroll Compressor and EC fan technology

- By the combination of the Digital Compressors and EC Fan managed by the iCOM controls the ultimate control of conditions can be provided by the Liebert PEX unit which has the ability to match the room load
- The capacity modulation compressor / refrigeration capability and the variable air side capacity provided by the Liebert PEX unit ranges from 20% to 100% of full capacity
- This provides a precise temperature control resulting in an almost linear line temperature graph
- Since the digital scroll compressor does not have to cycle on and off to meet the room load ireliability is maximised.
- Rivals standard units require
  - on/off compressor cycling - decresed reliability
  - require more hours of Humidifier operation - energy efficient
  - require compressors to run longer at 100% capacity and then require reheat to to maintain room temperature - inefficient operation

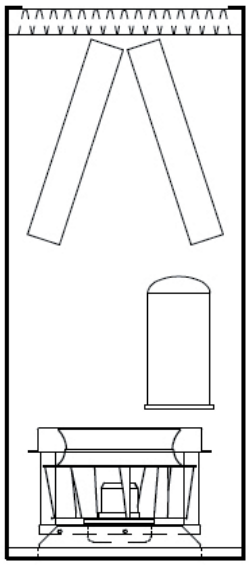




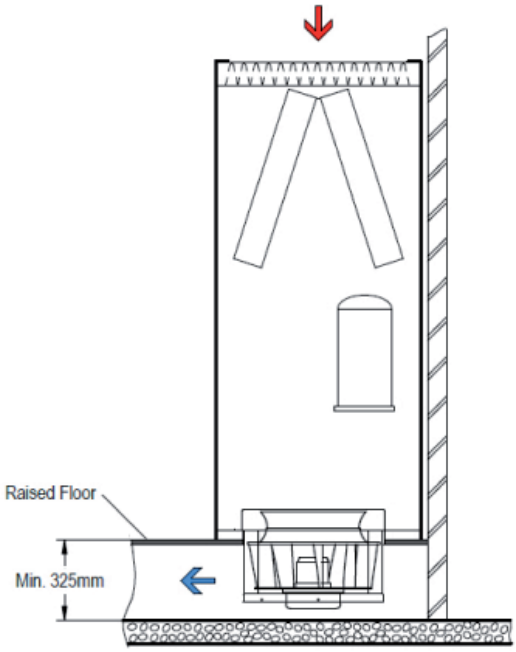
Main Features of Liebert PEX Models

Upflow models available with
- FC Forward Curve fans
- EC Backward Curve fans
- The fans are serviceable and removable from the front of the units

Downflow models available with
- FC Forward Curve fans
- EC Backward Curve fans with in-floor operation which is the optimum position for energy efficient performance
- The fans are serviceable and removable from the front of the units above the raised floor whilst the EC fan models are supplied with a lifting/lowering device for start up & service access



EC Fan Transport Mode - Downflow

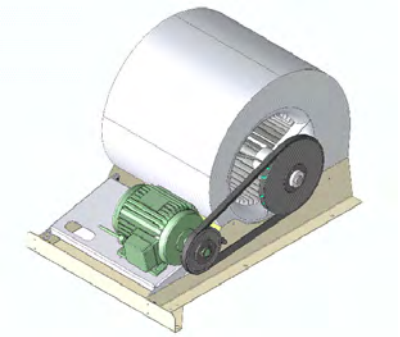


EC Fan Operation Mode for maximum efficiency - Downflow
(Requires a minimum of 325mm from raised floor.)

Features and Benefits

Forward Curve FC Fans

- Forward curve double width double inlet (DWDI) centrifugal fans coupled to high efficiency motors are standard on all models
- Innovative belt drive system automatically provides high belt tension during startup eliminating slippage and greatly extending belt life
- Fan belts changed in seconds without tools
- High external static pressure (ESP) motor options available

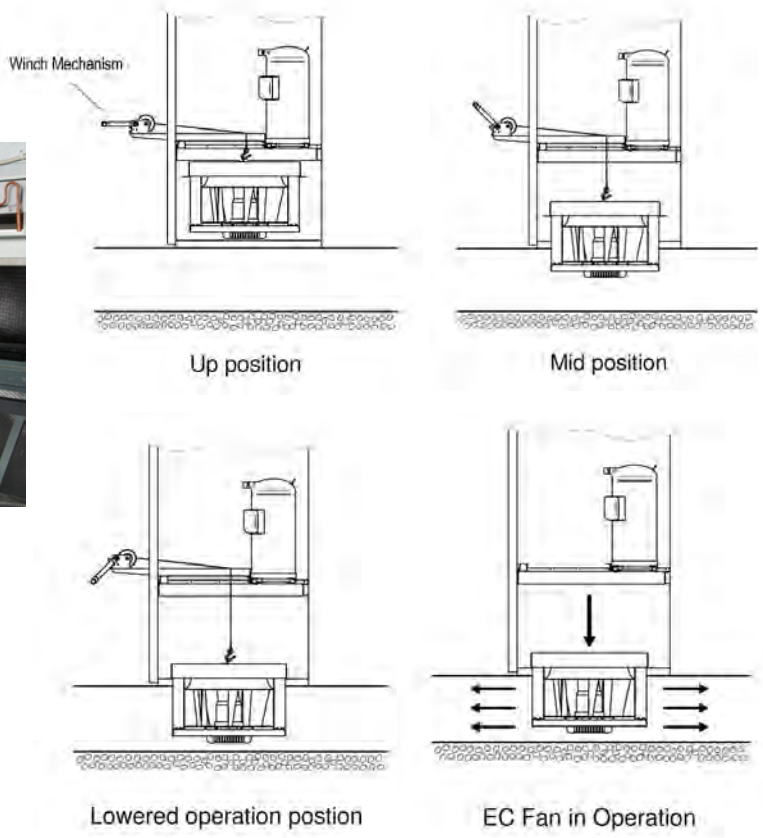


EC Direct Drive Fan

All models are available with direct drive fans offering:

- High efficiency, external rotor electronically commutated (EC) motor with integrated electronics
- True soft start characteristics (inrush current lower than operating current)
- Backward curve, corrosion resistant aluminium fan wheel
- Maintenance free design and construction
- High external static pressure (ESP) motor options available

All downflow units with EC fans feature an 'in-floor' fan configuration to deliver the ultimate in energy efficiency. Fans are pre wired and easily lowered into the floor after unit positioning on site. No extra assembly of components, sections, fans or wiring etc. required.



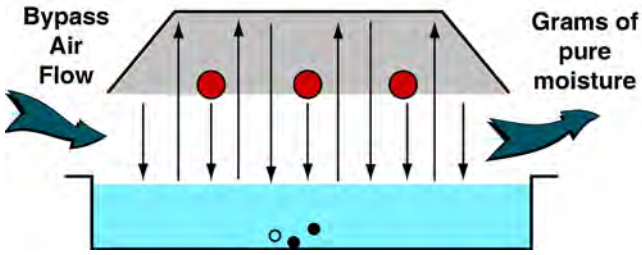
Features and Benefits

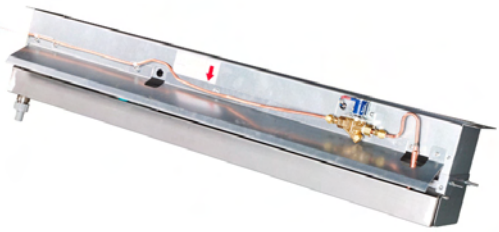
Humidifier options

Infrared humidification is standard on all Large Frame PEX models. Steam electrode (cylinder) humidification is available as an option.

Infrared Humidifier

- Instant humidification - high intensity quartz infrared lamps provide fast, responsive, energy efficient humidification
- Full capacity achieved in 5-6 seconds therefore no wasted overshoot and energy waste.
- Particle free water vapour introduced into coil bypass air avoids condensation
- Autoflush™ cycle helps remove mineral deposits
- Cleanable stainless steel humidifier pan
- Will operate effectively using almost any water quality.

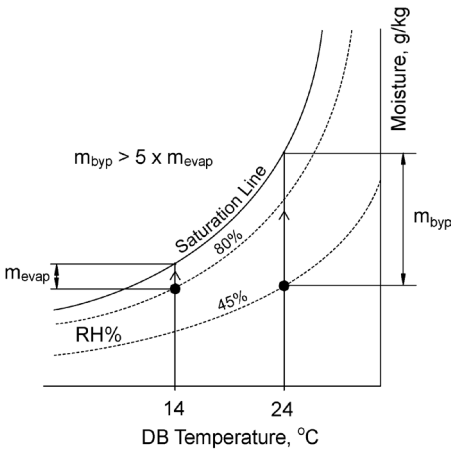


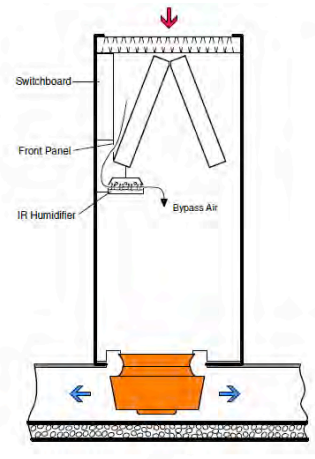


Infrared Humidifier Operation

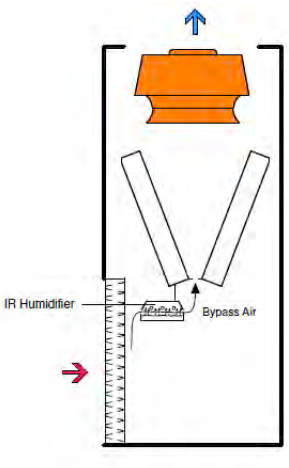
Why is Bypass Air Introduction Important ?

From a psychrometric standpoint, return air at 24°C/45%RH has more than 5 times the capacity to absorb steam compared to air at 14°C/80%RH that has already been cooled by the evaporator and is now close to saturation. The capacity of this cool air to absorb water vapour is limited and can result in water condensing within the air unit and surrounding areas. Bypass air introduction of water vapour is a more efficient method of humidification. In Liebert PEX units both standard infrared & optional steam electrode humidifiers operate in the Bypass Air.





Λ Frame Coil - Downflow Unit



V Frame Coil - Upflow Unit

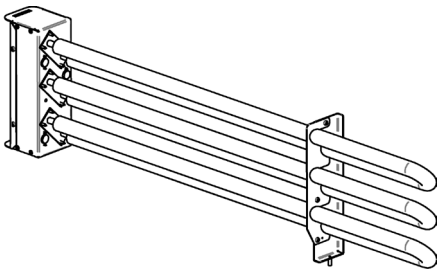
Features and Benefits

Electrode Humidifier (Optional)

- Direct acting electrode design suitable for a wide range of water quality
- Fail safe operation (electrodes will not function without water)
- Water vapour introduced into coil bypass air avoids condensation
- Fully serviceable cylinder bottle ensures quick and cost effective maintenance

Electric Heaters

- Single stage electric reheat system (2nd stage optional) with integral safeties
- 304 stainless steel, low watt density, fin-tubular elements
- Protected by Ground Current Detector
- Standard Reheat/Humidifier lockout - reduces power requirements during emergency power operation
- Heater sub assemblies are replaceable from the front of the unit



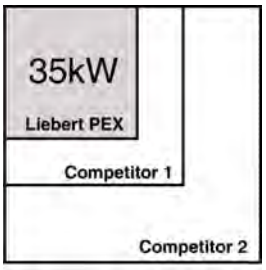
Stainess Steel Electric Heaters Assembly

Choice of Refrigerants

All compressorised models are designed to operate on either HFC R407C refrigerants or HCFC R22.
All Digital Compressor models are available with HFC R407C.

Footprint & Serviceability

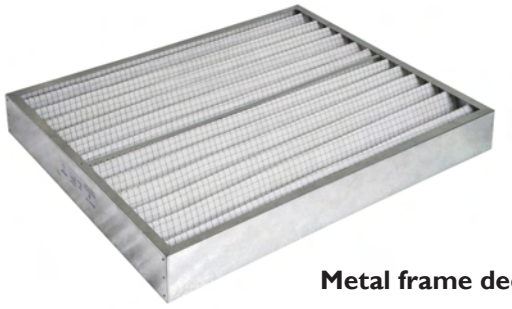
- High kW to footprint ratio
- Front accessible for installation and routine servicing
- Front doors are hinged and removeable, offering improved service access to the unit internals
- Compressors, water cooled condensers and filter driers employ rotalock connections for ease of removal i.e., no 'hot' works
- Front withdrawable air filters allow downflow units to be connected to return air ductwork



Unit Footprint Including Service Access (m^2)

Filtration

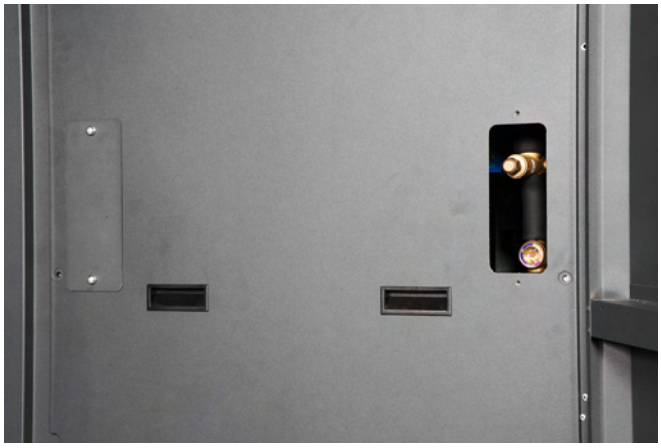
The metal framed filter panels are an integral part of the system and withdrawable from the front of the unit. Filtration shall be provided by deep V form, dry disposable media housed in a metal frame. The rated efficiency shall be to G4/EU4/MERV8 Standards.



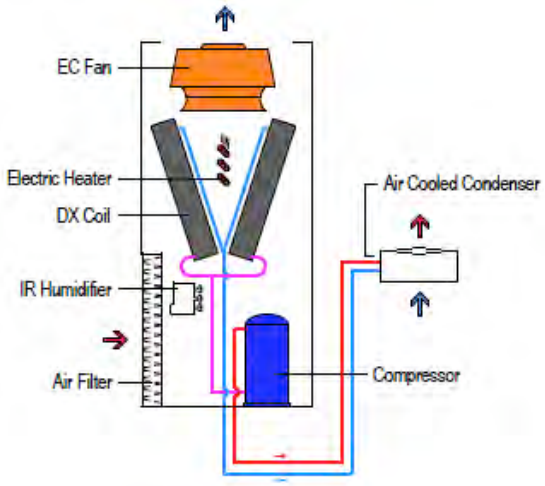
Metal frame deep V form filter panel

Thermal Expansion Valve

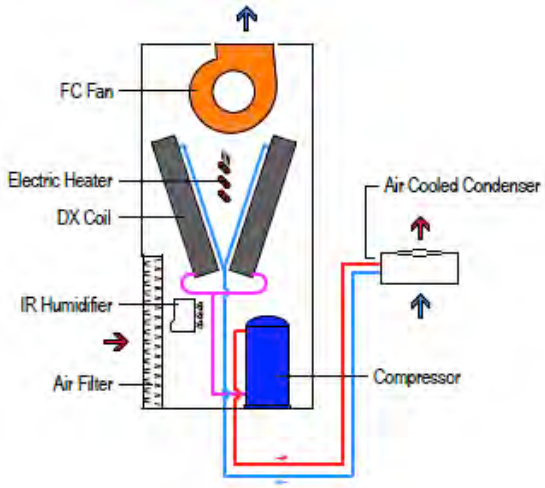
To provide quick and accurate refrigerant system set up and calibration, the thermal expansion valve (TXV) is accessible via an access hatch to allow system set up and calibration while the unit is running.



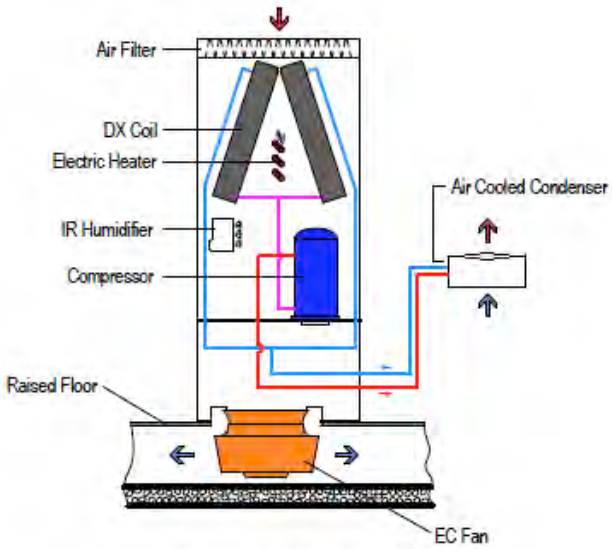
Model configurations - DX Air Cooled with Air Cooled Condenser Units



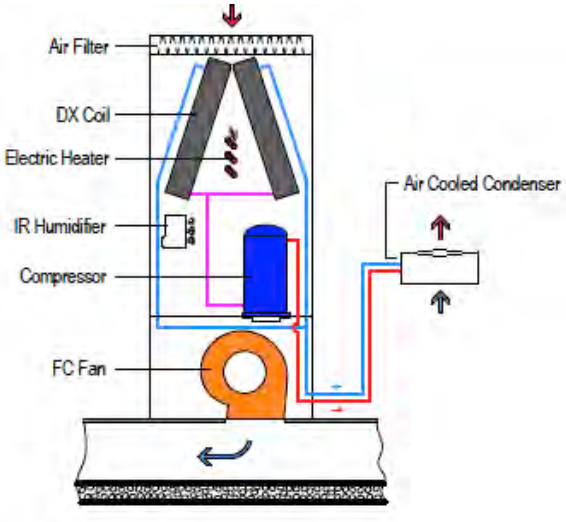
UP FLOW - EC FAN



UP FLOW - FC FAN

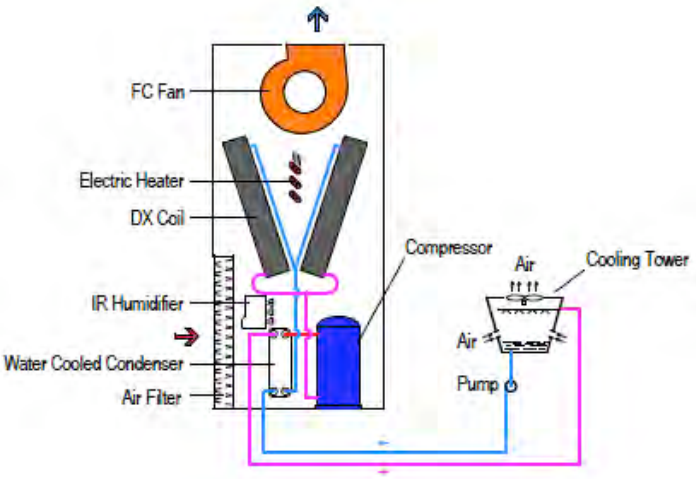


DOWN FLOW - EC FAN

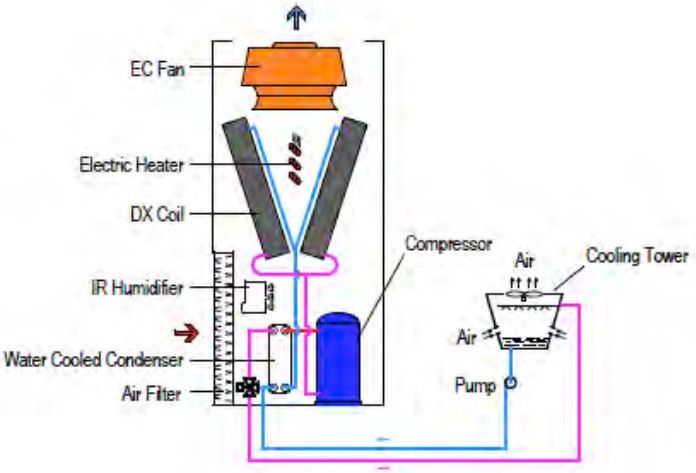


DOWN FLOW - FC FAN

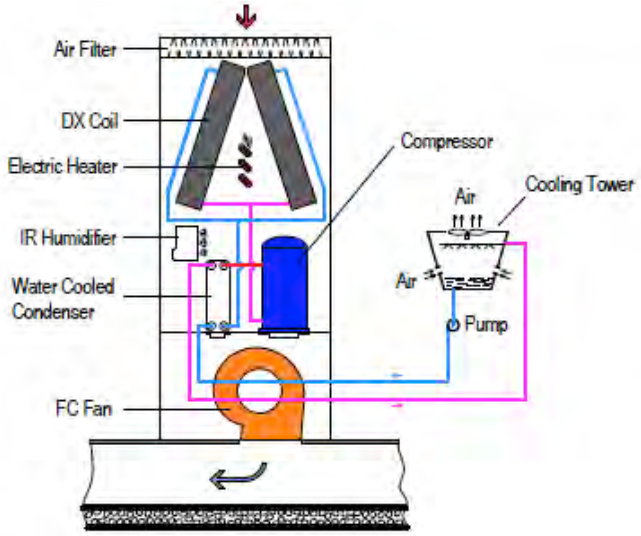
Model configurations - DX Water Cooled with Cooling Tower Units



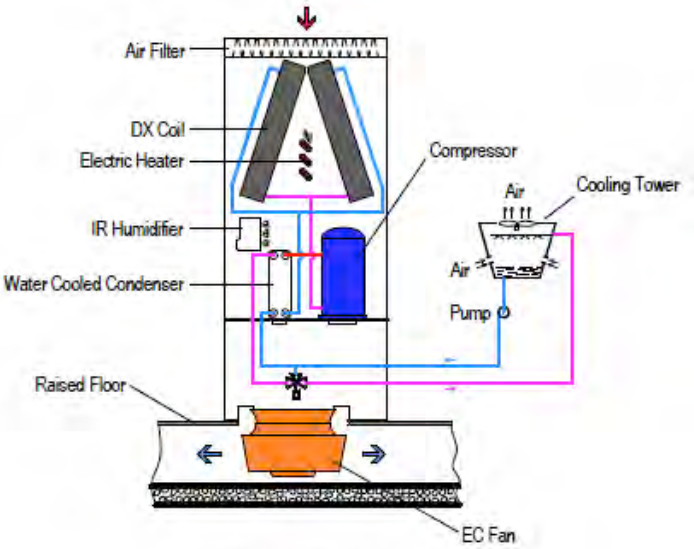
UP FLOW - FC FAN



UP FLOW - EC FAN

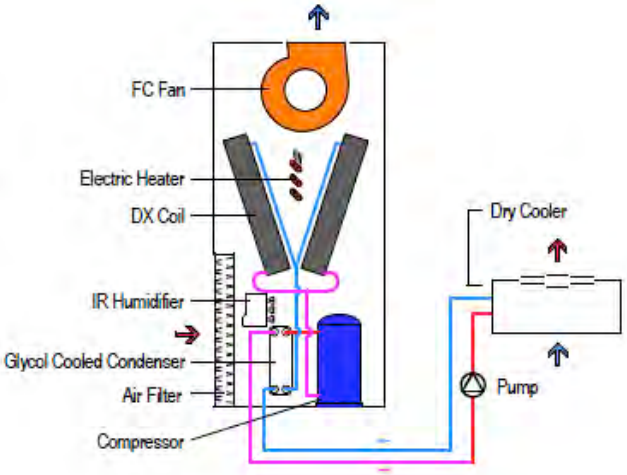


DOWN FLOW - FC FAN

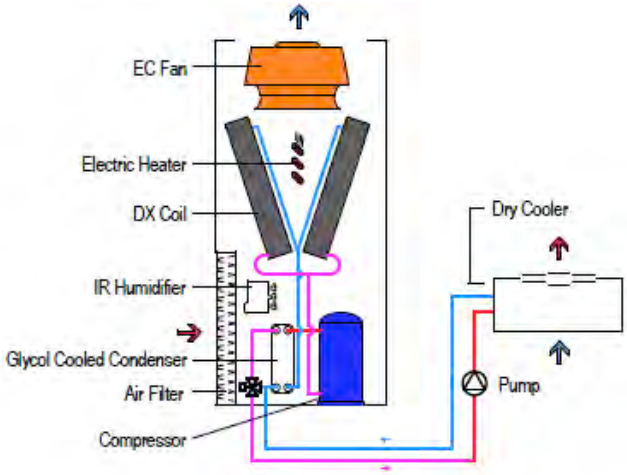


DOWN FLOW - EC FAN

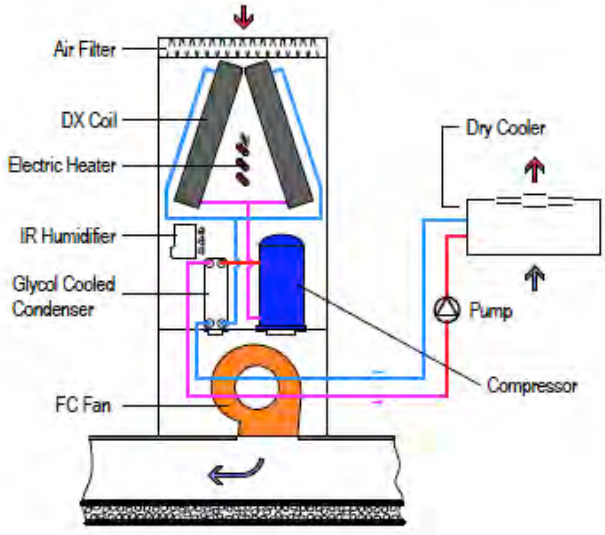
Model configurations - DX Glycol Cooled with Closed Circuit Units



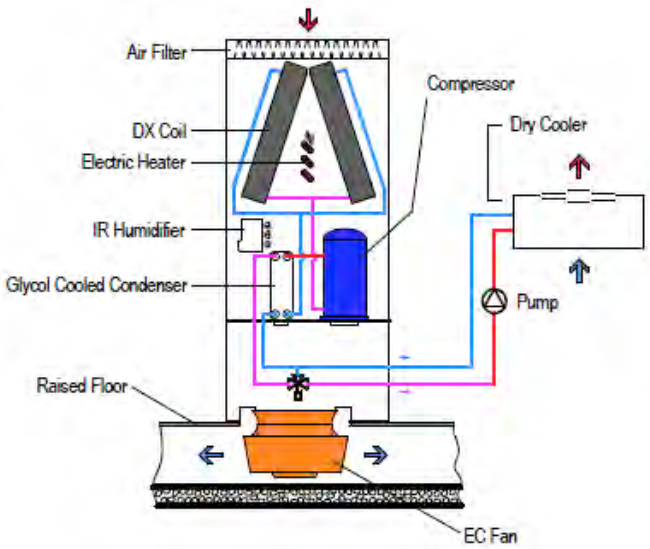
UP FLOW - FC FAN



UP FLOW - EC FAN

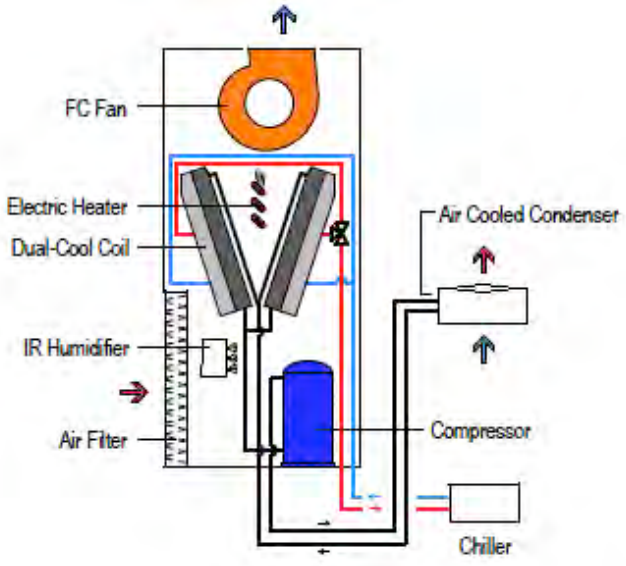


DOWN FLOW - FC FAN

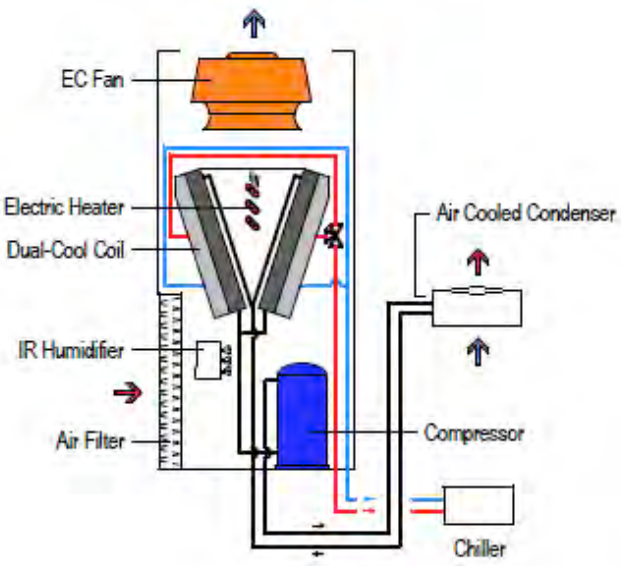


DOWN FLOW - EC FAN

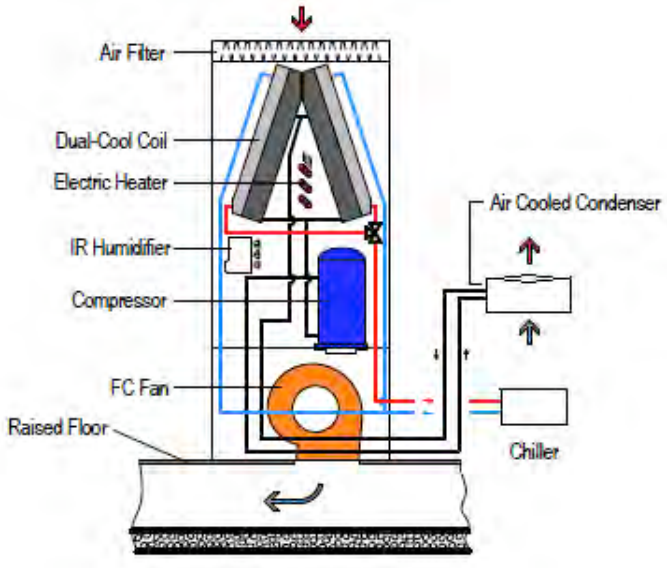
Model configurations - Air Cooled with Dual Cool Units



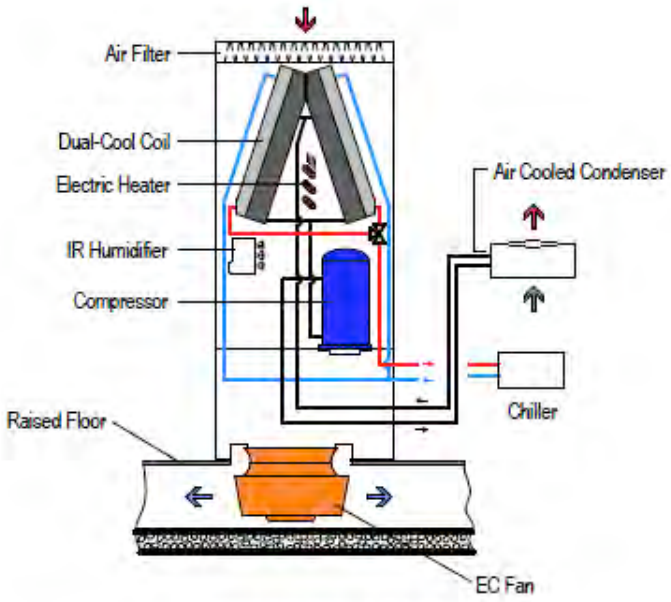
UP FLOW - FC FAN



UP FLOW - EC FAN

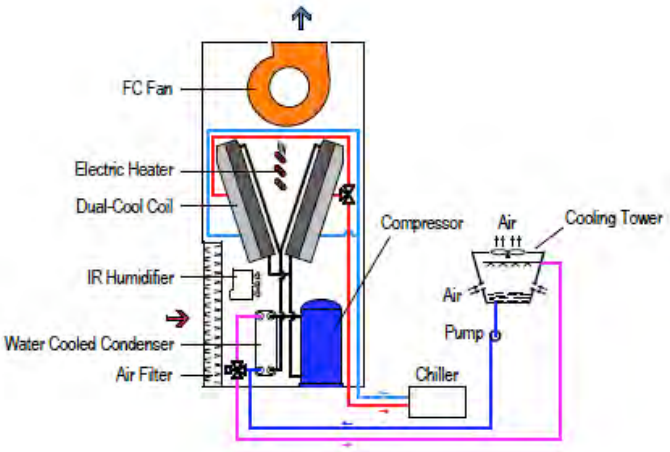


DOWN FLOW - FC FAN

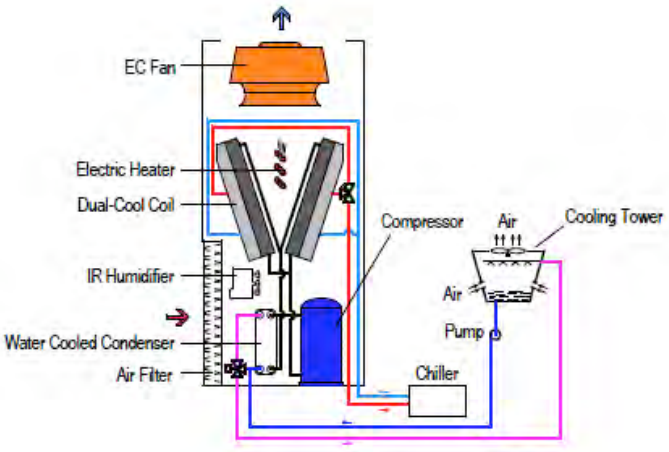


DOWN FLOW - EC FAN

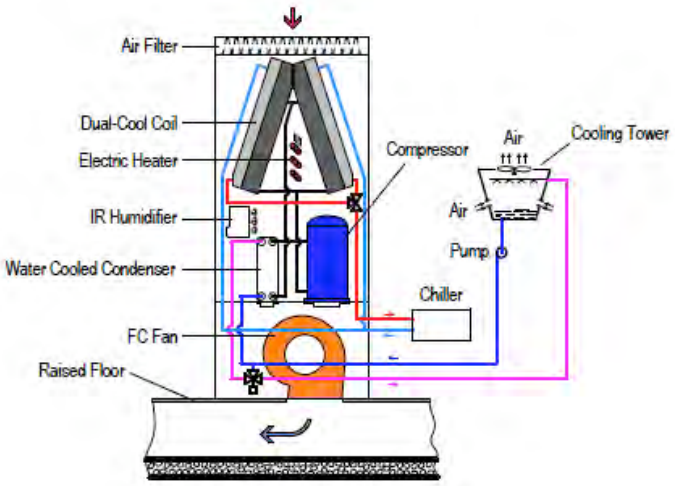
Model configurations - Water Cooled with Dual Cool Units



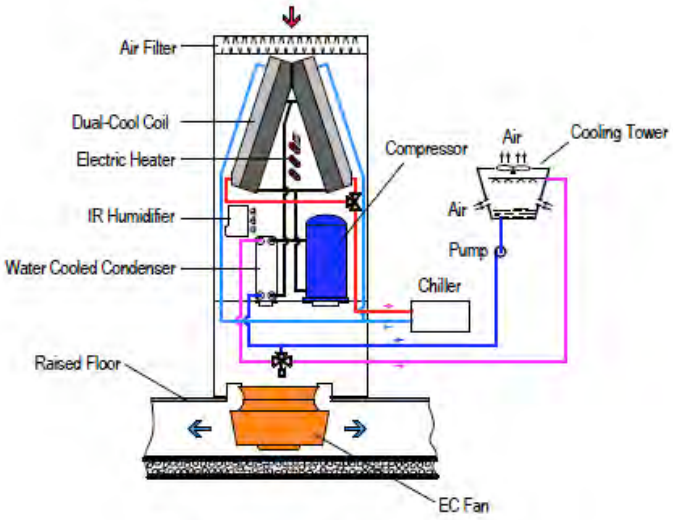
UP FLOW - FC FAN



UP FLOW - EC FAN

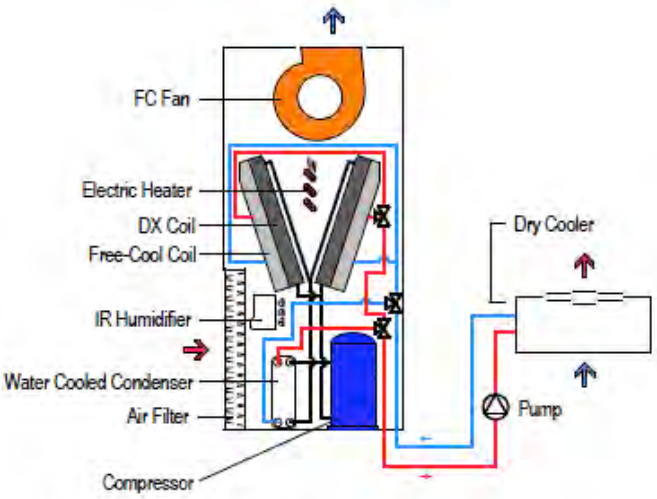


DOWN FLOW - FC FAN

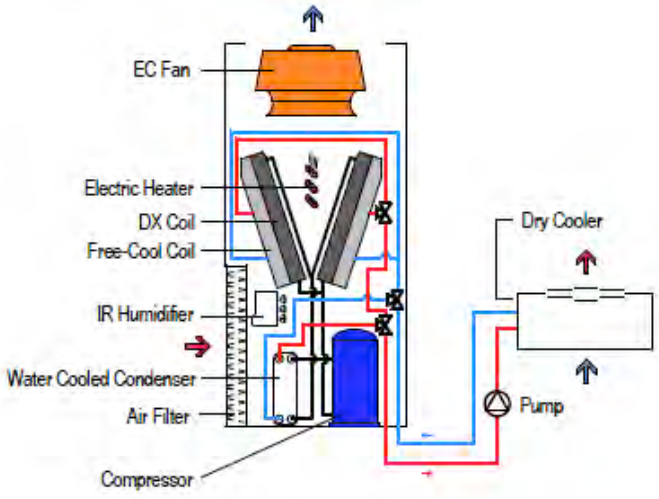


DOWN FLOW - EC FAN

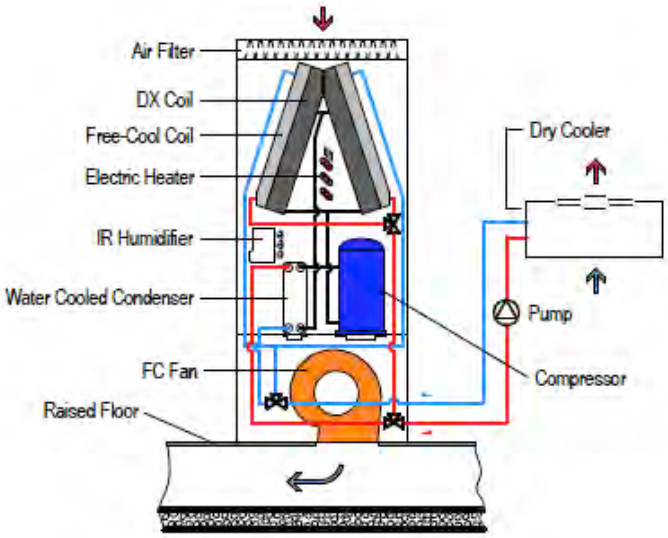
Model configurations - Free Cool Units



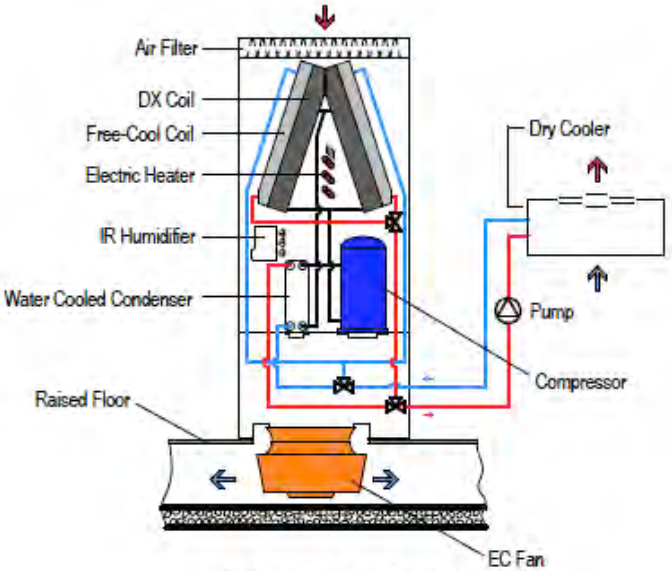
UP FLOW - FC FAN



UP FLOW - EC FAN



DOWN FLOW - FC FAN



DOWN FLOW - EC FAN

Upflow - DX Scroll compressors + FC fans									Air/Water Cooled					50Hz	
Model Size PEX	**1020**	**1025**	**1030**	**1035**	**2035**	**2045**	**2055**	**2040**	**2050**	**2060**	**2070**	**3070**	**3080**	**3090**	**3100**
Rated Capacity 24°C DB, 50% RH, 45° Condensing															
Total kW	19.4	22.1	29.2	32.4	36.5	44.4	52.0	39.5	45.7	57.9	65.9	71.8	79.4	87.2	97.9
Sensible kW	18.3	20.7	25.9	28.0	34.8	40.7	46.1	37.2	42.0	51.6	56.3	66.2	69.2	77.5	83.9
Rated Capacity 24°C DB, 45% RH, 45° Condensing															
Total kW	19.3	21.9	28.1	31.8	36.5	42.9	49.7	39.5	44.5	56.4	63.5	70.0	76.7	83.5	96.5
Sensible kW	19.1	21.7	27.4	29.9	36.2	42.6	48.8	39.2	44.2	55.1	59.7	69.5	73.5	82.2	89.9
Air Flow m^3/h	5,400	6,300	7,870	7920	9,720	11,610	13,030	10,440	12,240	15,390	15480	19,190	19,190	22,770	22,860
Evaporator Fan - Forward curve FC centrifugal fan, induction motor, auto-tensioning belt drive															
No. of fan assemblies	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
Std. Motor - kW	2.2	2.2	3.0	3.0	2.2	2.2	2.2	2.2	2.2	3.0	3.0	2.2	2.2	3.0	3.0
Evaporator Coil - Copper tubes with rifled bore tubes, louvred aluminium fins															
No. of rows	3	3	3	4	3	3	3	3	3	4	4	3	3	3	4
Fin series - FPM(FPI)	550 (14)														
Compressor - Copeland Compliant Scroll with Crankase Heater															
No. of compressors	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Unit cooling steps	2 via HGBP							2 via Compressors							
Safety controls - kPa	LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800														
Humidification Control															
Infrared - kg/h	4.5	4.5	4.5	4.5	10	10	10	10	10	10	10	10	10	10	10
Opt. Electrode - kg/h	5	5	5	5	10	10	10	10	10	10	10	10	10	10	10
Dehumidification control - Partialised Coil, Split Suction, Solenoid Control															
Reheat - Single stage, electric heater elements															
1 stage - kW	6	6	6	6	9	9	9	9	9	9	9	12	12	12	12
Opt. 2 stage - kW	12	12	12	12	18	18	18	18	18	18	18	24	24	24	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter															
Nominal W x D x H - mm	800 x 660 x 100														
Qty	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only															
RFLA	24.0	26.1	33.1	35.0	42.6	48.4	53.4	42.0	46.2	60.2	64.0	65.3	71.1	82.3	92.3
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)															
No. of Condensers	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
No. of MBV	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Valve Size	DN25	DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN32
Flow - l/s	1.0	1.2	1.6	1.7	1.9	2.3	2.8	2.1	2.4	3.2	3.5	3.7	4.2	4.7	5.3
PD - kPa	48	62	77	56	67	81	76	50	63	78	57	63	79	80	69
Unit Connections															
Hot Gas - O.D.	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Qty	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Liquid - O.D.	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Qty	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Condenser Water Supply - I.D.	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Qty	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Condenser Water Return - O.D.	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Qty	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Drain - Barb - mm	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight															
Width - mm	853	853	853	853	1703	1703	1703	1703	1703	1703	1703	2553	2553	2553	2553
Depth - mm	873	873	873	873	873	873	873	873	873	873	873	873	873	873	873
Height - mm	1970														
Unit Weight - kg	350	360	370	380	600	610	630	650	670	700	720	970	990	1030	1050
Unit Footprint															
Unit only - m^2	0.74	0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	1.49	1.49	2.23	2.23	2.23	2.23
Incl. Service area - m^2	1.47	1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	2.93	2.93	4.40	4.40	4.40	4.40
Service Access min - mm	850														

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.

Upflow - DX Scroll compressors + EC fans										Air/Water Cooled					50Hz	
Model Size	**PEX**	**1020**	**1025**	**1030**	**1035**	**2035**	**2045**	**2055**	**2040**	**2050**	**2060**	**2070**	**3070**	**3080**	**3090**	**3100**
Rated Capacity 24°C DB, 50% RH, 45° Condensing																
Total kW		19.9	22.4	29.5	32.8	36.6	44.5	53.3	40.7	45.8	59.5	66.3	71.9	80.0	88.0	98.7
Sensible kW		19.8	22.3	28.0	29.4	35.0	44.2	52.9	39.0	44.6	57.1	60.2	71.4	77.8	85.2	88.9
Rated Capacity 24°C DB, 45% RH, 45° Condensing																
Total kW		19.8	22.3	29.2	31.4	36.3	44.4	53.1	40.4	45.5	59.1	64.1	71.8	78.9	87.8	94.9
Sensible kW		19.7	22.2	28.9	31.2	36.1	44.2	53.0	40.1	45.0	58.7	63.7	71.5	78.1	87.2	94.2
Air Flow	m^3/h	6,500	7,500	8,300	8,500	10,000	14,000	16,000	11,200	13,800	17,000	17,480	23,000	25,000	25,170	25,170
Evaporator Fan - Backward curve EC motor direct drive																
No. of fan assemblies		1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
Std. Motor - kW		2.3	2.3	3.1	3.1	2.3	2.3	2.3	2.3	2.3	3.1	3.1	2.3	2.3	3.1	3.1
Evaporator Coil - Copper tubes with rifled bore tubes, louvred aluminium fins																
No. of rows		3	3	4	4	3	3	4	3	3	4	4	3	3	4	4
Fin series - FPM(FPI) (max)		550 (14)														
Compressor - Copeland Compliant Scroll with Crankase Heater																
No. of compressors		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Unit cooling steps		2 via HGBP							2 via Compressors							
Safety controls - kPa		LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800														
Humidification Control																
Infrared - kg/h		4.5	4.5	4.5	4.5	10	10	10	10	10	10	10	10	10	10	10
Opt. Electrode - kg/h		5	5	5	5	10	10	10	10	10	10	10	10	10	10	10
Dehumidification control - Reduced air flow																
Reheat - Single stage, electric heater elements																
1 stage - kW		6	6	6	6	9	9	9	9	9	9	9	12	12	12	12
Opt. 2 stage - kW		12	12	12	12	18	18	18	18	18	18	18	24	24	24	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter																
Nominal W x D x H - mm		800 x 660 x 100														
Qty		1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only																
RFLA		22.7	24.8	31.3	33.2	40.0	45.8	53.4	39.4	43.6	56.6	60.4	61.4	67.2	76.9	86.9
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)																
No. of Condensers		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
No. of MBV		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Valve Size		DN25	DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN32
Flow - l/s		1.1	1.2	1.6	1.8	1.9	2.4	2.8	2.1	2.4	3.2	3.6	3.8	4.3	4.7	5.3
PD - kPa		50	63	77	56	67	83	79	51	64	79	58	65	82	82	71
Unit Connections																
Hot Gas - O.D.		22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Qty		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Liquid - O.D.		16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Qty		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Condenser Water Supply - I.D.		35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Qty		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Condenser Water Return - O.D.		35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Qty		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Drain - Barb - mm		19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight																
Width - mm		853	853	853	853	1703	1703	1703	1703	1703	1703	1703	2553	2553	2553	2553
Depth - mm		873	873	873	873	873	873	873	873	873	873	873	873	873	873	873
Height - mm		1970														
Unit Weight - kg		350	360	370	380	600	610	630	650	670	700	720	970	990	1030	1050
Unit Footprint																
Unit only - m^2		0.74	0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	1.49	1.49	2.23	2.23	2.23	2.23
Incl. Service area - m^2		1.47	1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	2.93	2.93	4.40	4.40	4.40	4.40
Service Access min - mm		850														

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Minimum raised floor height 325mm for EC fan units. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.
5. The Liebert PEX units are now also available with EC Fans. The switching action of the EC Fan power controls may interact with emergency backup generators or UPS systems.

Upflow - DX Digital Scroll Compressors + EC fans								Air/Water Cooled		50Hz
Model Size PEX	**1020**	**1025**	**1030**	**1035**	**2035**	**2040**	**2050**	**2060**	**2070**	**3070**
Rated Capacity 24°C DB, 50% RH, 45° Condensing										
Total kW	19.9	22.4	26.7	32.8	36.6	40.7	45.8	54.3	66.3	71.9
Sensible kW	19.8	22.3	26.1	29.4	35.0	39.0	44.6	52.7	60.2	71.4
Rated Capacity 24°C DB, 45% RH, 45° Condensing										
Total kW	19.8	22.3	26.5	31.4	36.3	40.4	45.5	54.2	64.1	71.8
Sensible kW	19.7	22.2	26.2	31.2	36.1	40.1	45.0	53.8	63.7	71.5
Air Flow m^3/h	6,500	7,500	7,800	8,500	10,000	11,200	13,800	15,500	17,480	23,000
Evaporator Fan - Backward curve EC motor direct drive										
No. of fan assemblies	1	1	1	1	2	2	2	2	2	3
Std. Motor - kW	2.3	2.3	3.1	3.1	2.3	2.3	2.3	3.1	3.1	2.3
Evaporator Coil - Copper tubes with rifled bore tubes, louvred aluminium fins										
No. of rows	3	3	4	4	3	3	3	4	4	3
Fin series - FPM(FPI)	550 (14)									
Compressor - Copeland Compliant Scroll with Crankase Heater										
No. of compressors	1	1	1	1	1	2	2	2	2	2
Unit cooling steps	Variable									
Safety controls - kPa	LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800									
Humidification Control										
Infrared - kg/h	4.5	4.5	4.5	4.5	10	10	10	10	10	10
Opt. Electrode - kg/h	5	5	5	5	10	10	10	10	10	10
Dehumidification control - Reduced air flow										
Reheat - Single stage, electric heater elements										
1 stage - kW	6	6	6	6	9	9	9	9	9	12
Opt. 2 stage - kW	12	12	12	12	18	18	18	18	18	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter										
Nominal W x D x H - mm	800 x 660 x 100									
Qty	1	1	1	1	2	2	2	2	2	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only										
RFLA	23.4	24.8	30.4	33.2	40.0	40.8	43.6	54.8	60.4	61.4
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)										
No. of Condensers	1	1	1	1	1	2	2	2	2	2
No. of MBV	1	1	1	1	1	2	2	2	2	2
Valve Size	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25
Flow - l/s	1.1	1.2	1.4	1.8	1.9	2.1	2.4	2.9	3.6	3.8
PD - kPa	50	63	65	56	67	51	64	66	58	65
Unit Connections										
Hot Gas - O.D.	22	22	22	22	22	22	22	22	22	22
Qty	1	1	1	1	1	2	2	2	2	2
Liquid - O.D.	16	16	16	16	16	16	16	16	16	16
Qty	1	1	1	1	1	2	2	2	2	2
Condenser Water Supply - I.D.	35	35	35	35	35	35	35	35	35	35
Qty	1	1	1	1	1	2	2	2	2	2
Condenser Water Return - O.D.	35	35	35	35	35	35	35	35	35	35
Qty	1	1	1	1	1	2	2	2	2	2
Drain - Barb - mm	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight										
Width - mm	853	853	853	853	1703	1703	1703	1703	1703	2553
Depth - mm	873	873	873	873	873	873	873	873	873	873
Height - mm	1970									
Unit Weight - kg	350	360	370	380	600	650	670	700	720	970
Unit Footprint										
Unit only - m^2	0.74	0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	2.23
Incl. Service area - m^2	1.47	1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	4.40
Service Access min - mm	850									

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Minimum raised floor height 325mm for EC fan units. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.
5. The Liebert PEX units are now also available with EC Fans. The switching action of the EC Fan power controls may interact with emergency backup generators or UPS systems.

Upflow - DX Scroll compressors + FC fans									Glycol Cooled					50Hz	
Model Size PEX	**1020**	**1025**	**1030**	**1035**	**2035**	**2045**	**2055**	**2040**	**2050**	**2060**	**2070**	**3070**	**3080**	**3090**	**3100**
Rated Capacity 24°C DB, 50% RH, 54° Condensing															
Total kW	17.9	20.9	27.0	30.3	36.6	41.0	48.3	36.7	42.7	54.3	61.8	66.5	73.3	79.8	90.0
Sensible kW	17.8	20.2	25.0	27.1	34.8	39.3	44.6	36.1	40.7	50.1	54.6	64.0	66.7	74.6	80.7
Rated Capacity 24°C DB, 45% RH, 54° Condensing															
Total kW	17.9	20.9	26.5	29.2	35.4	41.0	47.0	36.7	42.4	53.3	59.8	66.5	71.3	78.7	87.7
Sensible kW	17.9	20.7	26.3	28.8	35.1	40.6	46.6	36.0	42.1	52.9	58.1	64.1	70.8	78.1	86.2
Air Flow m^3/h	5,400	6,300	7,870	7920	9,720	11,610	13,030	10,440	12,240	15,390	15480	19,190	19,190	22,770	22,860
Evaporator Fan - Forward curve FC centrifugal fan, induction motor, auto-tensioning belt drive															
No. of fan assemblies	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
Std. Motor - kW	2.2	2.2	3.0	3.0	2.2	2.2	2.2	2.2	2.2	3.0	3.0	2.2	2.2	3.0	3.0
Evaporator Coil - Copper tubes with rifled bore tubes, louvred aluminium fins															
No. of rows	3	3	3	4	3	3	3	3	3	4	4	3	3	3	4
Fin series - FPM(FPI)	550 (14)														
Compressor - Copeland Compliant Scroll with Crankase Heater															
No. of compressors	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Unit cooling steps	2 via HGBP							2 via Compressors							
Safety controls - kPa	LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800														
Humidification Control															
Infrared - kg/h	4.5	4.5	4.5	4.5	10	10	10	10	10	10	10	10	10	10	10
Opt. Electrode - kg/h	5	5	5	5	10	10	10	10	10	10	10	10	10	10	10
Dehumidification control - Partialised Coil, Split Suction, Solenoid Control															
Reheat - Single stage, electric heater elements															
1 stage - kW	6	6	6	6	9	9	9	9	9	9	9	12	12	12	12
Opt. 2 stage - kW	12	12	12	12	18	18	18	18	18	18	18	24	24	24	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter															
Nominal W x D x H - mm	800 x 660 x 100														
Qty	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only															
RFLA	24.0	26.1	33.1	35.0	42.6	48.4	53.4	42.0	46.2	60.2	64.0	65.3	71.1	82.3	92.3
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)															
No. of Condensers	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
No. of MBV	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Valve Size	DN25	DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN32
Flow - l/s	1.1	1.3	1.7	1.9	2.0	2.5	2.9	2.2	2.5	3.3	3.7	4.0	4.4	4.9	5.6
PD - kPa	45	59	57	59	68	89	76	47	60	58	60	67	83	88	70
Unit Connections															
Glycol Supply - I.D..	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Qty	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Glycol Return - O.D..	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Qty	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Drain - Barb - mm	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight															
Width - mm	853	853	853	853	1703	1703	1703	1703	1703	1703	1703	2553	2553	2553	2553
Depth - mm	873	873	873	873	873	873	873	873	873	873	873	873	873	873	873
Height - mm	1970														
Unit Weight - kg	350	360	370	380	600	610	630	650	670	700	720	970	990	1030	1050
Unit Footprint															
Unit only - m^2	0.74	0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	1.49	1.49	2.23	2.23	2.23	2.23
Incl. Service area - m^2	1.47	1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	2.93	2.93	4.40	4.40	4.40	4.40
Service Access min - mm	850														

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.

Upflow - DX Scroll compressors + EC fans										Glycol Cooled					50Hz	
Model Size	**PEX**	**1020**	**1025**	**1030**	**1035**	**2035**	**2045**	**2055**	**2040**	**2050**	**2060**	**2070**	**3070**	**3080**	**3090**	**3100**
Rated Capacity 24°C DB, 50% RH, 45° Condensing																
Total kW		19.2	21.6	27.4	30.4	34.3	42.7	51.2	38.1	43.3	55.7	61.4	69.0	75.2	82.6	90.7
Sensible kW		19.0	21.4	27.1	28.4	34.0	42.4	50.8	37.8	43.0	55.3	58.3	68.5	74.6	82.0	85.7
Rated Capacity 24°C DB, 45% RH, 45° Condensing																
Total kW		19.1	21.5	27.3	30.0	34.1	42.5	51.0	38.0	43.2	55.5	61.1	68.7	75.0	82.4	89.8
Sensible kW		19.1	21.5	27.2	29.8	34.0	42.4	50.9	37.9	43.1	55.4	60.6	68.6	74.9	82.2	89.1
Air Flow	m^3/h	6,500	7,500	8,300	8,500	10,000	14,000	16,000	11,200	13,800	17,000	17,480	23,000	25,000	25,170	25,170
Evaporator Fan - Backward curve EC motor, direct drive																
No. of fan assemblies		1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
Std. Motor - kW		2.3	2.3	3.1	3.1	2.3	2.3	2.3	2.3	2.3	3.1	3.1	2.3	2.3	3.1	3.1
Evaporator Coil - Copper tubes with rifled bore tubes, louvred aluminium fins																
No. of rows		3	3	4	4	3	3	4	3	3	4	4	3	3	4	4
Fin series - FPM(FPI)		550 (14)														
Compressor - Copeland Compliant Scroll with Crankase Heater																
No. of compressors		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Unit cooling steps		2 via HGBP							2 via Compressors							
Safety controls - kPa		LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800														
Humidification Control																
Infrared - kg/h		4.5	4.5	4.5	4.5	10	10	10	10	10	10	10	10	10	10	10
Opt. Electrode - kg/h		5	5	5	5	10	10	10	10	10	10	10	10	10	10	10
Dehumidification control - Reduced air flow																
Reheat - Single stage, electric heater elements																
1 stage - kW		6	6	6	6	9	9	9	9	9	9	9	12	12	12	12
Opt. 2 stage - kW		12	12	12	12	18	18	18	18	18	18	18	24	24	24	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter																
Nominal W x D x H - mm		800 x 660 x 100														
Qty		1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only																
RFLA		22.7	24.8	31.3	33.2	40.0	45.8	53.4	39.4	43.6	56.6	60.4	61.4	67.2	75.9	86.9
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)																
No. of Condensers		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
No. of MBV		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Valve Size		DN25	DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN32
Flow - l/s		1.1	1.3	1.7	1.9	2.0	2.5	3.0	2.2	2.6	3.4	3.8	4.1	4.6	4.9	5.6
PD - kPa		48	63	58	59	69	92	81	48	62	59	61	71	87	90	71
Unit Connections																
Glycol Supply - I.D..		35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Qty		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Glycol Return - O.D..		35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Qty		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Drain - Barb - mm		19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight																
Width - mm		853	853	853	853	1703	1703	1703	1703	1703	1703	1703	2553	2553	2553	2553
Depth - mm		873	873	873	873	873	873	873	873	873	873	873	873	873	873	873
Height - mm		1970														
Unit Weight - kg		350	360	370	380	600	610	630	650	670	700	720	970	990	1030	1050
Unit Footprint																
Unit only - m^2		0.74	0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	1.49	1.49	2.23	2.23	2.23	2.23
Incl. Service area - m^2		1.47	1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	2.93	2.93	4.40	4.40	4.40	4.40
Service Access min - mm		850														

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Minimum raised floor height 325mm for EC fan units. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.
5. The Liebert PEX units are now also available with EC Fans. The switching action of the EC Fan power controls may interact with emergency backup generators or UPS systems.

Upflow - DX Digital Scroll Compressors + EC fans									Glycol Cooled		50Hz
Model Size	**PEX**	**1020**	**1025**	**1030**	**1035**	**2035**	**2040**	**2050**	**2060**	**2070**	**3070**
Rated Capacity 24°C DB, 50% RH, 45°C Condensing											
Total kW		19.2	21.6	25.4	30.4	34.3	38.1	43.3	51.3	61.4	69.0
Sensible kW		19.0	21.4	25.2	28.4	34.0	37.8	43.0	50.9	58.3	68.5
Rated Capacity 24°C DB, 45% RH, 45°C Condensing											
Total kW		19.1	21.5	25.3	30.0	34.1	38.0	43.2	51.1	61.1	68.7
Sensible kW		19.1	21.5	25.2	29.8	34.0	37.9	43.1	51.0	60.6	68.6
Air Flow	m^3/h	6,500	7,500	7,800	8,500	10,000	11,200	13,800	15,500	17,480	23,000
Evaporator Fan - Backward curve EC motor, direct drive											
No. of fan assemblies		1	1	1	1	2	2	2	2	2	3
Std. Motor - kW		2.3	2.3	3.1	3.1	2.3	2.3	2.3	3.1	3.1	2.3
Evaporator Coil - Copper tubes with rifled bore tubes, louvred aluminium fins											
No. of rows		3	3	4	4	3	3	3	4	4	3
Fin series - FPM(FPI)		550 (14)									
Compressor - Copeland Compliant Scroll with Crankase Heater											
No. of compressors		1	1	1	1	1	2	2	2	2	2
Unit cooling steps		Variable									
Safety controls - kPa		LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800									
Humidification Control											
Infrared - kg/h		4.5	4.5	4.5	4.5	10	10	10	10	10	10
Opt. Electrode - kg/h		5	5	5	5	10	10	10	10	10	10
Dehumidification control - Reduced air flow											
Reheat - Single stage, electric heater elements											
1 stage - kW		6	6	6	6	9	9	9	9	9	12
Opt. 2 stage - kW		12	12	12	12	18	18	18	18	18	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter											
Nominal W x D x H - mm		800 x 660 x 100									
Qty		1	1	1	1	2	2	2	2	2	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only											
RFLA		23.4	24.8	30.4	33.2	40.0	40.8	43.6	54.8	60.4	61.4
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)											
No. of Condensers		1	1	1	1	1	2	2	2	2	2
No. of MBV		1	1	1	1	1	2	2	2	2	2
Valve Size		DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25
Flow - l/s		1.1	1.3	1.5	1.9	2.0	2.2	2.6	3.0	3.8	4.1
PD - kPa		48	63	49	59	69	48	62	49	61	71
Unit Connections											
Condenser Water Supply - O.D..		35	35	35	35	35	35	35	35	35	35
Qty		1	1	1	1	1	2	2	2	2	2
Glycol Return - O.D..		35	35	35	35	35	35	35	35	35	35
Qty		1	1	1	1	1	2	2	2	2	2
Drain - Barb - mm		19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight											
Width - mm		853	853	853	853	1703	1703	1703	1703	1703	2553
Depth - mm		873	873	873	873	873	873	873	873	873	873
Height - mm		1970									
Unit Weight - kg		350	360	370	380	600	650	670	700	720	970
Unit Footprint											
Unit only - m^2		0.74	0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	2.23
Incl. Service area - m^2		1.47	1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	4.40
Service Access min - mm		850									

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Minimum raised floor height 325mm for EC fan units. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.
5. The Liebert PEX units are now also available with EC Fans. The switching action of the EC Fan power controls may interact with emergency backup generators or UPS systems.

Upflow - DX Scroll compressors + FC fans						Air/Water Cooled			Dual Cool				50Hz
Model Size	**PEX**	**1020**	**1025**	**1030**	**2035**	**2045**	**2055**	**2040**	**2050**	**2060**	**3070**	**3080**	**3090**
Rated Capacity	**24°C DB, 50% RH, 45° Condensing, CW Based on 7°C EWT, 12°C LWT**												
DX	Total kW	19.4	22.1	29.2	36.5	44.4	52.0	39.5	45.7	57.9	71.8	79.4	87.2
	Sensible kW	18.3	20.7	25.9	34.8	40.7	46.1	37.2	42.0	51.6	66.2	69.2	77.5
CW	Total kW	23.2	25.3	28.5	47.5	53.4	57.3	50.0	54.9	62.7	83.6	83.6	91.9
	Sensible kW	19.5	21.7	25.4	38.0	43.4	47.2	40.1	45.1	53.0	69.5	69.5	78.5
Rated Capacity	**24°C DB, 45% RH, 45° Condensing, CW Based on 7°C EWT, 12°C LWT**												
DX	Total kW	19.3	21.9	28.1	36.5	42.9	49.7	39.5	44.5	56.4	70.0	76.7	83.5
	Sensible kW	19.1	21.7	27.4	36.2	42.6	48.8	39.2	44.2	55.1	69.5	73.5	82.2
CW	Total kW	20.5	22.2	25.8	42.2	47.0	50.4	44.2	48.7	55.7	73.5	73.5	81.4
	Sensible kW	19.9	22.2	25.8	38.6	44.1	48.0	40.8	45.9	54.1	70.8	70.8	80.2
Air Flow	m^3/h	5,400	6,300	7,870	9,720	11,610	13,030	10,440	12,240	15,390	19,190	19,190	22,770
Evaporator Fan - Forward curve FC centrifugal fan, induction motor, auto-tensioning belt drive													
No. of fan assemblies		1	1	1	2	2	2	2	2	2	3	3	3
Std. Motor - kW		2.2	2.2	3.0	2.2	2.2	2.2	2.2	2.2	3.0	2.2	2.2	3.0
Evaporator Coil - Copper tubes with rifled bore tubes, louvred aluminium fins													
No. of rows		6	6	6	6	6	6	6	6	6	6	6	6
Fin series - FPM(FPI)		550 (14)											
Compressor - Copeland Compliant Scroll with Crankase Heater													
No. of compressors		1	1	1	1	1	1	2	2	2	2	2	2
Unit cooling steps		2 via HGBP											
Safety controls - kPa		LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800											
Humidification Control													
Infrared - kg/h		4.5	4.5	4.5	10	10	10	10	10	10	10	10	10
Opt. Electrode - kg/h		5	5	5	10	10	10	10	10	10	10	10	10
Dehumidification control- Standard HVAC dehumidification methology utilised													
Reheat - Single stage, electric heater elements													
1 stage - kW		6	6	6	9	9	9	9	9	9	12	12	12
Opt. 2 stage - kW		12	12	12	18	18	18	18	18	18	24	24	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter													
Nominal W x D x H - mm													
Qty		1	1	1	2	2	2	2	2	2	3	3	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only													
RFLA		24.0	26.1	33.1	42.6	48.4	53.4	42.0	46.2	60.2	65.3	71.1	82.3
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)													
No. of Condensers		1	1	1	1	1	1	2	2	2	2	2	2
No. of MBV		1	1	1	1	1	1	2	2	2	2	2	2
Valve Size		DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25	DN25	DN25	DN25	DN25
Flow - l/s		1.0	1.2	1.5	1.9	2.3	2.7	2.1	2.4	3.0	3.7	4.2	4.5
PD - kPa		48	62	72	67	81	71	50	63	72	63	79	75
Unit Connections													
Hot Gas - O.D.		22	22	22	22	22	22	22	22	22	22	22	22
Qty		1	1	1	1	1	1	2	2	2	2	2	2
Liquid - O.D.		16	16	16	16	16	16	16	16	16	16	16	16
Qty		1	1	1	1	1	1	2	2	2	2	2	2
Condenser Water Supply - I.D.		35	35	35	35	35	35	35	35	35	42	42	42
Qty		1	1	1	1	1	1	2	2	2	2	2	2
Condenser Water Return - O.D.		35	35	35	35	35	35	35	35	35	42	42	42
Qty		1	1	1	1	1	1	2	2	2	2	2	2
CW Supply - I.D.		25	25	25	35	35	35	35	35	35	42	42	42
CW Return - O.D.		25	25	25	35	35	35	35	35	35	42	42	42
Drain - Barb - mm		19	19	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight													
Width - mm		853	853	853	1703	1703	1703	1703	1703	1703	2553	2553	2553
Depth - mm		873	873	873	873	873	873	873	873	873	873	873	873
Height - mm		1970											
Unit Weight - kg		350	360	370	600	610	630	650	670	700	970	990	1030
Unit Footprint													
Unit only - m^2		0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	1.49	2.23	2.23	2.23
Incl. Service area - m^2		1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	2.93	4.40	4.40	4.40
Service Access min - mm		850											

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.

Upflow - DX Scroll compressors + EC fans		Air/WateCooled							Dual Cool			50Hz	
Model Size	**PEX**	**1020**	**1025**	**1030**	**2035**	**2045**	**2055**	**2040**	**2050**	**2060**	**3070**	**3080**	**3090**
Rated Capacity	**24°C DB, 50% RH, 45° Condensing, CW Based on 7°C EWT, 12°C LWT**												
DX	Total kW	19.9	22.4	29.3	36.6	44.5	52.2	40.7	45.8	59.3	71.9	80.0	87.5
	Sensible kW	19.8	22.3	26.6	35.0	44.2	50.5	39.0	44.6	54.9	71.4	77.8	81.9
CW	Total kW	25.7	28.0	29.4	48.6	59.7	63.5	52.2	59.0	66.1	92.6	97.2	97.8
	Sensible kW	22.2	24.6	26.3	38.9	49.6	54.4	42.2	49.1	56.7	79.0	83.8	84.2
Rated Capacity	**24°C DB, 45% RH, 45° Condensing, CW Based on 7°C EWT, 12°C LWT**												
DX	Total kW	19.8	22.3	28.3	36.3	44.4	49.9	40.4	45.5	58.0	71.8	78.9	86.1
	Sensible kW	19.7	22.2	28.1	36.1	44.2	49.8	40.1	45.0	57.6	71.5	78.1	85.4
CW	Total kW	22.7	25.0	26.8	42.9	52.5	56.3	46.0	52.4	58.6	81.3	85.7	85.9
	Sensible kW	22.7	25.0	26.8	39.5	50.6	55.6	42.9	50.1	58.1	80.7	85.7	85.9
Air Flow	m^3/h	6,500	7,500	8,300	10,000	14,000	16,000	11,200	13,800	17,000	23,000	25,000	25,170
Evaporator Fan - Backward curve EC motor drive													
No. of fan assemblies		1	1	1	2	2	2	2	2	2	3	3	3
Std. Motor - kW		2.3	2.3	3.1	2.3	2.3	2.3	2.3	2.3	3.1	2.3	2.3	3.1
Evaporator Coil - Copper tubes with rifled bore tubes, louvred aluminium fins													
No. of rows		6	6	6	6	6	6	6	6	6	6	6	6
Fin series - FPM(FPI)		550 (14)											
Compressor - Copeland Compliant Scroll with Crankase Heater													
No. of compressors		1	1	1	1	1	1	2	2	2	2	2	2
Unit cooling steps		2 via HGBP						2 via Compressors					
Safety controls - kPa		LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800											
Humidification Control													
Infrared - kg/h		4.5	4.5	4.5	10	10	10	10	10	10	10	10	10
Opt. Electrode - kg/h		5	5	5	10	10	10	10	10	10	10	10	10
Dehumidification control - Reduced air flow													
Reheat - Single stage, electric heater elements													
1 stage - kW		6	6	6	9	9	9	9	9	9	12	12	12
Opt. 2 stage - kW		12	12	12	18	18	18	18	18	18	24	24	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter													
Nominal W x D x H - mm													
Qty		1	1	1	2	2	2	2	2	2	3	3	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only													
RFLA		22.7	24.8	31.3	40.0	45.8	53.4	39.4	43.6	56.6	61.4	67.2	76.9
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)													
No. of Condensers		1	1	1	1	1	1	2	2	2	2	2	2
No. of MBV		1	1	1	1	1	1	2	2	2	2	2	2
Valve Size		DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25	DN25	DN25	DN25	DN25
Flow - l/s		1.1	1.2	1.5	1.9	2.4	2.7	2.1	2.4	3.0	3.8	4.3	4.5
PD - kPa		50	63	72	67	83	73	51	64	73	65	82	76
Unit Connections													
Hot Gas - O.D.		22	22	22	22	22	22	22	22	22	22	22	22
Qty		1	1	1	1	1	1	2	2	2	2	2	2
Liquid - O.D.		16	16	16	16	16	16	16	16	16	16	16	16
Qty		1	1	1	1	1	1	2	2	2	2	2	2
Condenser Water Supply - I.D.		35	35	35	35	35	35	35	35	35	42	42	42
Qty		1	1	1	1	1	1	2	2	2	2	2	2
Condenser Water Return - O.D.		35	35	35	35	35	35	35	35	35	42	42	42
Qty		1	1	1	1	1	1	2	2	2	2	2	2
CW Supply - I.D.		25	25	25	35	35	35	35	35	35	42	42	42
CW Return - O.D.		25	25	25	35	35	35	35	35	35	42	42	42
Drain - Barb - mm		19	19	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight													
Width - mm		853	853	853	1703	1703	1703	1703	1703	1703	2553	2553	2553
Depth - mm		873	873	873	873	873	873	873	873	873	873	873	873
Height - mm		1970											
Unit Weight - kg		350	360	370	600	610	630	650	670	700	970	990	1030
Unit Footprint													
Unit only - m^2		0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	1.49	2.23	2.23	2.23
Incl. Service area - m^2		1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	2.93	4.40	4.40	4.40
Service Access min - mm		850											

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Minimum raised floor height 325mm for EC fan units. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.
5. The Liebert PEX units are now also available with EC Fans. The switching action of the EC Fan power controls may interact with emergency backup generators or UPS systems.

Upflow - Digital Scroll Compressors + EC fans								Dual Cool	50Hz
Model Size	**PEX**	**1020**	**1025**	**1030**	**2035**	**2040**	**2050**	**2060**	**3070**
Rated Capacity 24°C DB, 50% RH, 45° Condensing, CW Based on 7°C EWT, 12°C LWT									
DX	Total kW	19.9	22.4	26.5	36.6	40.7	45.8	54.2	71.9
	Sensible kW	19.8	22.3	24.9	35.0	39.0	44.6	50.4	71.4
CW	Total kW	25.7	28.0	28.7	48.6	52.2	59.0	63.1	92.6
	Sensible kW	22.2	24.6	25.3	38.9	42.2	49.1	53.3	79.0
Rated Capacity 24°C DB, 45% RH, 45° Condensing, CW Based on 7°C EWT, 12°C LWT									
DX	Total kW	19.8	22.3	26.1	36.3	40.4	45.5	53.1	71.8
	Sensible kW	19.7	22.2	25.9	36.1	40.1	45.0	52.7	71.5
CW	Total kW	22.7	25.0	25.8	42.9	46.0	52.4	55.5	81.3
	Sensible kW	22.7	25.0	25.8	39.5	42.9	50.1	54.4	80.7
Air Flow	m^3/h	6,500	7,500	7,800	10,000	11,200	13,800	15,500	23,000
Evaporator Fan - Backward curve EC motor, direct drive									
No. of fan assemblies		1	1	1	1	1	1	1	3
Std. Motor - kW		2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Dual Cool DX Evaporator & Chilled Water Coil - Copper tubes with rifled bore tubes, louvred aluminium fins									
No. of rows		6	6	6	6	6	6	6	6
Fin series - FPM(FPI)		550 (14)							
Compressor - Copeland Compliant Scroll with Crankase Heater									
No. of compressors		1	1	1	1	2	2	2	2
Unit cooling steps		Variable							
Safety controls - kPa		LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800							
Humidification Control									
Infrared - kg/h		4.5	4.5	4.5	10	10	10	10	10
Opt. Electrode - kg/h		5	5	5	10	10	10	10	10
Dehumidification control - Reduced air flow									
Reheat - Single stage, electric heater elements									
1 stage - kW		6	6	6	9	9	9	9	12
Opt. 2 stage - kW		12	12	12	18	18	18	18	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter									
Nominal W x D x H - mm		800 x 660 x 100							
Qty		1	1	1	2	2	2	2	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only									
RFLA		23.4	24.8	30.4	40.0	40.8	43.6	54.8	61.4
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)									
No. of Condensers		1	1	1	1	1	1	2	2
No. of MBV		1	1	1	1	1	1	2	2
Valve Size		DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25
Flow - l/s		1.1	1.2	1.4	1.9	2.1	2.4	2.8	3.8
PD - kPa		50	63	60	67	51	64	61	65
Unit Connections									
Hot Gas - O.D.		22	22	22	22	22	22	22	22
Qty		1	1	1	1	2	2	2	2
Liquid - O.D.		16	16	16	16	16	16	16	16
Qty		1	1	1	1	2	2	2	2
Condenser Water Supply - I.D.		35	35	35	35	35	35	35	35
Qty		1	1	1	1	2	2	2	3
Condenser Water Return - O.D.		35	35	35	35	35	35	35	35
Qty		1	1	1	1	2	2	2	3
CW Supply - I.D.		25	25	25	35	35	35	35	35
CW Return - O.D.		25	25	25	35	35	35	35	35
Drain - Barb - mm		19	19	19	19	19	19	19	19
Hum. Supply - BSP - M		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight									
Width - mm		853	853	853	1703	1703	1703	1703	2553
Depth - mm		873	873	873	873	873	873	873	873
Height - mm		1970							
Unit Weight - kg		350	360	370	600	650	670	700	970
Unit Footprint									
Unit only - m^2		0.74	0.74	0.74	1.49	1.49	1.49	1.49	2.23
Incl. Service area - m^2		1.47	1.47	1.47	2.93	2.93	2.93	2.93	4.40
Service Access min - mm		850							

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Minimum raised floor height 325mm for EC fan units. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.
5. The Liebert PEX units are now also available with EC Fans. The switching action of the EC Fan power controls may interact with emergency backup generators or UPS systems.

Upflow - DX Scroll compressors + FC fans									Free Cool			50Hz	
Model Size	**PEX**	**1020**	**1025**	**1030**	**2035**	**2045**	**2055**	**2040**	**2050**	**2060**	**3070**	**3080**	**3090**
Rated Capacity	**24°C DB, 50% RH, 54° Condensing, CW Based on 7°C EWT, 12°C LWT, and Glycol 30%**												
DX	Total kW	17.9	20.9	27.0	36.6	41.0	48.3	36.7	42.7	54.3	66.5	73.3	76.8
	Sensible kW	17.8	20.2	25.0	34.8	39.3	44.6	36.1	40.7	50.1	64.0	66.7	72.6
Free Cool	Total kW	21.2	23.2	26.1	43.5	48.9	52.4	45.8	50.2	57.4	76.5	76.5	84.1
	Sensible kW	18.4	20.6	24.0	36.0	41.0	44.6	37.9	42.6	50.1	65.7	65.7	74.2
Rated Capacity	**24°C DB, 45% RH, 54°C Condensing, CW Based on 7°C EWT, 12°C LWT, and Glycol 30%**												
DX	Total kW	17.9	20.9	26.5	35.4	41.0	47.0	36.7	42.4	53.3	66.5	71.3	75.7
	Sensible kW	17.9	20.7	26.3	35.1	40.6	46.6	36.0	42.1	52.9	64.1	70.8	75.1
Free Cool	Total kW	18.8	20.3	23.6	38.6	43.1	46.2	40.4	44.6	51.0	67.3	67.3	74.5
	Sensible kW	18.2	20.3	23.6	35.3	40.4	44.0	37.3	42.0	49.6	64.9	64.9	73.4
Air Flow	m^3/h	5,400	6,300	7,870	9,720	11,610	13,030	10,440	12,240	15,390	19,190	19,190	22,770
Evaporator Fan - Forward curve FC centrifugal fan, induction motor, auto-tensioning belt drive													
No. of fan assemblies		1	1	1	2	2	2	2	2	2	3	3	3
Std. Motor - kW		2.2	2.2	3.0	2.2	2.2	2.2	2.2	2.2	3.0	2.2	2.2	3.0
Free Cool DX Evaporator & Chilled Water Coil - Copper tubes with rifled bore tubes, louvred aluminium fins													
No. of rows		6	6	6	6	6	6	6	6	6	6	6	6
Fin series - FPM(FPI)		550 (14)											
Compressor - Copeland Compliant Scroll with Crankase Heater													
No. of compressors		1	1	1	1	1	1	2	2	2	2	2	2
Unit cooling steps		2 via HGBP						2 via Compressors					
Safety controls - kPa		LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800											
Humidification Control													
Infrared - kg/h		4.5	4.5	4.5	10	10	10	10	10	10	10	10	10
Opt. Electrode - kg/h		5	5	5	10	10	10	10	10	10	10	10	10
Dehumidification control - N/A													
Reheat - Single stage, electric heater elements													
1 stage - kW		6	6	6	9	9	9	9	9	9	12	12	12
Opt. 2 stage - kW		12	12	12	18	18	18	18	18	18	24	24	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter													
Nominal W x D x H - mm		800 x 660 x 100											
Qty		1	1	1	2	2	2	2	2	2	3	3	3
Electrical 400V 50Hz 3Phase - Std DX unit only													
RFLA		24.0	26.1	33.3	42.6	48.4	53.4	42.0	46.2	60.2	65.3	71.1	82.3
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)													
No. of Condensers		1	1	1	1	1	1	2	2	2	2	2	2
No. of MBV		1	1	1	1	1	1	2	2	2	2	2	2
Valve Size		DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25	DN25	DN25	DN25	DN25
Flow - l/s		1.1	1.3	1.6	2.0	2.5	2.8	2.2	2.5	3.2	4.0	4.4	4.7
PD - kPa		45	59	54	68	89	72	47	60	54	67	83	82
Unit Connections													
Glycol Supply - I.D.		35	35	35	35	35	35	35	35	35	42	42	42
Qty		1	1	1	1	1	1	2	2	2	2	2	2
Glycol Return - O.D.		35	35	35	35	35	35	35	35	35	42	42	42
Qty		1	1	1	1	1	1	2	2	2	2	2	2
Drain - Barb - mm		19	19	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight													
Width - mm		853	853	853	1703	1703	1703	1703	1703	1703	2553	2553	2553
Depth - mm		873	873	873	873	873	873	873	873	873	873	873	873
Height - mm		1970											
Unit Weight - kg		350	360	370	600	610	630	650	670	700	970	990	1030
Unit Footprint													
Unit only - m^2		0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	1.49	2.23	2.23	2.23
Incl. Service area - m^2		1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	2.93	4.40	4.40	4.40
Service Access min - mm		850											

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice

Upflow - DX Scroll compressors + EC fans									Free Cool			50Hz	
Model Size	**PEX**	**1020**	**1025**	**1030**	**2035**	**2045**	**2055**	**2040**	**2050**	**2060**	**3070**	**3080**	**3090**
Rated Capacity 24°C DB, 50% RH, 54° Condensing, CW Based on 7°C EWT, 12°C LWT, and Glycol 30%													
DX	Total kW	19.2	21.6	27.1	34.3	42.7	48.8	38.1	43.3	54.9	69.0	75.2	81.0
	Sensible kW	19.0	21.4	25.8	34.0	42.4	48.5	37.8	43.0	53.2	68.5	74.6	78.5
Free Cool	Total kW	23.5	25.7	27.0	44.5	54.6	58.2	47.8	54.0	60.5	84.8	89.0	89.5
	Sensible kW	21.0	23.2	24.9	36.8	46.9	51.4	39.9	46.4	53.6	74.7	79.2	79.6
Rated Capacity 24°C DB, 45% RH, 54°C Condensing, CW Based on 7°C EWT, 12°C LWT, and Glycol 30%													
DX	Total kW	19.1	21.5	27.0	34.1	42.5	48.6	38.0	43.2	52.1	68.7	75.0	80.8
	Sensible kW	19.1	21.5	26.8	34.0	42.4	48.4	37.9	43.1	52.0	68.6	74.9	80.0
Free Cool	Total kW	20.8	22.9	24.5	39.3	48.1	51.6	42.1	48.0	53.7	74.4	78.4	78.7
	Sensible kW	20.8	22.9	24.5	36.1	46.3	50.9	39.3	45.8	53.2	73.9	78.4	78.7
Air Flow	m^3/h	6,500	7,500	8,300	10,000	14,000	16,000	11,200	13,800	17,000	23,000	25,000	25,170
Evaporator Fan - Backward Curve EC motor, direct drive													
No. of fan assemblies		1	1	1	2	2	2	2	2	2	3	3	3
Std. Motor - kW		2.3	2.3	3.1	2.3	2.3	2.3	2.3	2.3	3.1	2.3	2.3	3.1
Free Cool DX Evaporator & Chilled Water Coil - Copper tubes with rifled bore tubes, louvred aluminium fins													
No. of rows		6	6	6	6	6	6	6	6	6	6	6	6
Fin series - FPM(FPI)		550 (14)											
Compressor - Copeland Compliant Scroll with Crankase Heater													
No. of compressors		1	1	1	1	1	1	2	2	2	2	2	2
Unit cooling steps		2 via HGBP						2 via Compressors					
Safety controls - kPa		LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800											
Humidification Control													
Infrared - kg/h		4.5	4.5	4.5	10	10	10	10	10	10	10	10	10
Opt. Electrode - kg/h		5	5	5	10	10	10	10	10	10	10	10	10
Dehumidification control - Variable EC fan speed													
Reheat - Single stage, electric heater elements													
1 stage - kW		6	6	6	9	9	9	9	9	9	12	12	12
Opt. 2 stage - kW		12	12	12	18	18	18	18	18	18	24	24	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter													
Nominal W x D x H - mm		800 x 660 x 100											
Qty		1	1	1	2	2	2	2	2	2	3	3	3
Electrical 400V 50Hz 3Phase - Std DX unit only													
RFLA		22.7	24.8	31.3	40.0	45.8	53.4	39.4	43.6	56.6	61.4	67.2	76.9
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV													
No. of Condensers		1	1	1	1	1	1	2	2	2	2	2	2
No. of MBV		1	1	1	1	1	1	2	2	2	2	2	2
Valve Size		DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25	DN25	DN25	DN25	DN25
Flow - l/s		1.1	1.3	1.6	2.0	2.5	2.9	2.2	2.6	3.2	4.1	4.6	4.8
PD - kPa		48	63	54	69	92	75	48	62	55	71	87	83
Unit Connections													
Glycol Supply - I.D.		35	35	35	35	35	35	35	35	35	42	42	42
Qty		1	1	1	1	1	1	2	2	2	2	2	2
Glycol Return - O.D.		35	35	35	35	35	35	35	35	35	42	42	42
Qty		1	1	1	1	1	1	2	2	2	2	2	2
Drain - Barb - mm		19	19	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight													
Width - mm		853	853	853	1703	1703	1703	1703	1703	1703	2553	2553	2553
Depth - mm		873	873	873	873	873	873	873	873	873	873	873	873
Height - mm		1970											
Unit Weight - kg		350	360	370	600	610	630	650	670	700	970	990	1030
Unit Footprint													
Unit only - m^2		0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	1.49	2.23	2.23	2.23
Incl. Service area - m^2		1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	2.93	4.40	4.40	4.40
Service Access min - mm		850											

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Minimum raised floor height 325mm for EC fan units. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.
5. The Liebert PEX units are now also available with EC Fans. The switching action of the EC Fan power controls may interact with emergency backup generators or UPS systems.

Upflow - Digital Scroll Compressors + EC fans								Free Cool	50Hz
Model Size	**PEX**	**1020**	**1025**	**1030**	**2035**	**2040**	**2050**	**2060**	**3070**
Rated Capacity 24°C DB, 50% RH, 54°C Condensing, CW Based on 7°C EWT, 12°C LWT, and Glycol 30%									
DX	Total kW	19.2	21.6	24.4	34.3	38.1	43.3	49.5	69.0
	Sensible kW	19.0	21.4	24.1	34.0	37.8	43.0	49.1	68.5
Free Cool	Total kW	23.5	25.7	26.2	44.5	47.8	54.0	57.8	84.8
	Sensible kW	21.0	23.2	23.9	36.8	39.9	46.4	50.4	74.7
Rated Capacity 24°C DB, 45% RH, 54°C Condensing, CW Based on 7°C EWT, 12°C LWT, and Glycol 30%									
DX	Total kW	19.1	21.5	24.3	34.1	38.0	43.2	47.0	68.7
	Sensible kW	19.1	21.5	24.2	34.0	37.9	43.1	46.9	68.6
Free Cool	Total kW	20.8	22.9	23.6	39.3	42.1	48.0	50.8	74.4
	Sensible kW	20.8	22.9	23.6	36.1	39.3	45.8	49.8	73.9
Air Flow	m^3/h	6,500	7,500	7,800	10,000	11,200	13,800	15,500	23,000
Evaporator Fan - Backward curve EC motor, direct drive									
No. of fan assemblies		1	1	1	2	2	2	2	3
Std. Motor - kW		2.3	2.3	3.1	2.3	2.3	2.3	3.1	2.3
Dual Cool DX Evaporator & Chilled Water Coil - Copper tubes with rifled bore tubes, louvred aluminium fins									
No. of rows		6	6	6	6	6	6	6	6
Fin series - FPM(FPI)		550 (14)							
Compressor - Copeland Compliant Scroll with Crankase Heater									
No. of compressors		1	1	1	1	2	2	2	2
Unit cooling steps		Variable							
Safety controls - kPa		LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800							
Humidification Control									
Infrared - kg/h		4.5	4.5	4.5	10	10	10	10	10
Opt. Electrode - kg/h		5	5	5	10	10	10	10	10
Dehumidification control - Variable air flow									
Reheat - Single stage, electric heater elements									
1 stage - kW		6	6	6	9	9	9	9	12
Opt. 2 stage - kW		12	12	12	18	18	18	18	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter									
Nominal W x D x H - mm		800 x 660 x 100							
Qty		1	1	1	2	2	2	2	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only									
RFLA		23.4	24.8	30.4	40.0	40.8	43.6	54.8	61.4
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)									
No. of Condensers		1	1	1	1	2	2	2	2
No. of MBV		1	1	1	1	2	2	2	2
Valve Size		DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25
Flow - l/s		1.1	1.3	1.4	2.0	2.2	2.6	2.9	4.1
PD - kPa		48	63	45	69	48	62	46	71
Unit Connections									
Condenser Water Supply - I.D.		35	35	35	35	35	35	35	35
Qty		1	1	1	1	2	2	2	3
Condenser Water Return - O.D.		35	35	35	35	35	35	35	35
Qty		1	1	1	1	2	2	2	3
Drain - Barb - mm		19	19	19	19	19	19	19	19
Hum. Supply - BSP - M		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight									
Width - mm		853	853	853	1703	1703	1703	1703	2553
Depth - mm		873	873	873	873	873	873	873	873
Height - mm		1970							
Unit Weight - kg		350	360	370	600	650	670	700	970
Unit Footprint									
Unit only - m^2		0.74	0.74	0.74	1.49	1.49	1.49	1.49	2.23
Incl. Service area - m^2		1.47	1.47	1.47	2.93	2.93	2.93	2.93	4.40
Service Access min - mm		850							

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Minimum raised floor height 325mm for EC fan units. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.
5. The Liebert PEX units are now also available with EC Fans. The switching action of the EC Fan power controls may interact with emergency backup generators or UPS systems.

Downflow - DX Scroll compressors + FC fans										Air/Water Cooled					50Hz	
Model Size	**PEX**	**1020**	**1025**	**1030**	**1035**	**2035**	**2045**	**2055**	**2040**	**2050**	**2060**	**2070**	**3070**	**3080**	**3090**	**3100**
Rated Capacity	**24°C DB, 50% RH, 45° Condensing**															
Total kW		20.0	23.1	30.1	33.1	36.6	45.0	53.2	41.0	46.4	60.6	66.9	73.9	81.4	89.3	100.0
Sensible kW		18.9	21.5	26.6	29.4	35.1	41.7	47.3	38.5	43.2	53.5	59.0	68.2	71.1	79.6	88.4
Rated Capacity	**24°C DB, 45% RH, 45° Condensing**															
Total kW		19.7	22.4	28.8	31.8	36.6	44.0	51.6	40.4	45.6	58.2	64.6	72.4	78.6	85.5	97.9
Sensible kW		19.5	22.2	28.1	31.2	36.3	43.6	50.5	40.1	45.2	56.7	62.7	71.8	75.6	84.3	94.5
Air Flow	m^3/h	5,670	6,660	8,280	8,190	9,900	12,240	13,680	10,980	12,960	16,200	16,020	20,160	20,160	23,940	23,760
Evaporator Fan - Forward curve FC centrifugal fan, induction motor, auto-tensioning belt drive																
No. of fan assemblies		1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
Std. Motor - kW		2.2	2.2	3.0	3.0	2.2	2.2	2.2	2.2	2.2	3.0	3.0	2.2	2.2	3.0	3.0
Evaporator Coil - Copper tubes with rifled bore tubes, louvred aluminium fins																
No. of rows		3	3	3	4	3	3	3	3	3	4	4	3	3	3	4
Fin series - FPM(FPI)		550 (14)														
Compressor - Copeland Compliant Scroll with Crankase Heater																
No. of compressors		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Unit cooling steps		2 via HGBP							2 via Compressors							
Safety controls - kPa		LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800														
Humidification Control																
Infrared - kg/h		4.5	4.5	4.5	4.5	10	10	10	10	10	10	10	10	10	10	10
Opt. Electrode - kg/h		5	5	5	5	10	10	10	10	10	10	10	10	10	10	10
Dehumidification control - Partialised Coil, Split Suction, Solenoid Control,																
Reheat - Single stage, electric heater elements																
1 stage - kW		6	6	6	6	9	9	9	9	9	9	9	12	12	12	12
Opt. 2 stage - kW		12	12	12	12	18	18	18	18	18	18	18	24	24	24	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter																
Nominal W x D x H - mm		800 x 800 x 100														
Qty		1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only																
RFLA		24.0	26.1	33.1	35.0	42.6	48.4	53.4	42.0	46.2	60.2	64.0	65.3	71.1	82.3	92.3
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)																
No. of Condensers		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
No. of MBV		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Valve Size		DN25	DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN32
Flow - l/s		1.1	1.2	1.6	1.8	1.9	2.4	2.8	2.2	2.5	3.2	3.6	3.8	4.3	4.7	5.4
PD - kPa		49	64	80	57	67	84	78	51	65	80	58	65	81	83	71
Unit Connections																
Hot Gas - O.D.		22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Qty		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Liquid - O.D.		16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Qty		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Condenser Water Supply - I.D.		35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Qty		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Condenser Water Return - O.D.		35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Qty		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Drain - Barb - mm		19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight																
Width - mm		853	853	853	853	1703	1703	1703	1703	1703	1703	1703	2553	2553	2553	2553
Depth - mm		873	873	873	873	873	873	873	873	873	873	873	873	873	873	873
Height - mm		1970														
Unit Weight - kg		350	360	370	380	600	610	630	650	670	700	720	970	990	1030	1050
Unit Footprint																
Unit only - m^2		0.74	0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	1.49	1.49	2.23	2.23	2.23	2.23
Incl. Service area - m^2		1.47	1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	2.93	2.93	4.40	4.40	4.40	4.40
Service Access min - mm		850														

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.

Downflow - DX Scroll compressors + EC fans										Air/Water Cooled					50Hz	
Model Size	**PEX**	**1020**	**1025**	**1030**	**1035**	**2035**	**2045**	**2055**	**2040**	**2050**	**2060**	**2070**	**3070**	**3080**	**3090**	**3100**
Rated Capacity 24°C DB, 50% RH, 45° Condensing																
Total kW		20.3	23.2	30.4	33.2	37.0	45.8	54.0	41.3	47.2	60.9	67.0	74.0	82.7	89.8	100.0
Sensible kW		20.1	22.6	28.2	30.4	35.2	44.6	53.1	39.2	44.9	57.4	62.4	72.4	78.4	86.1	92.8
Rated Capacity 24°C DB, 45% RH, 45° Condensing																
Total kW		20.2	23.1	29.5	32.3	36.8	45.5	53.7	40.9	46.6	59.9	65.8	73.4	81.5	89.3	98.0
Sensible kW		20.1	22.9	29.3	32.1	36.5	45.0	53.2	40.6	46.3	59.4	65.3	72.7	80.9	88.7	97.2
Air Flow	m^3/h	6,500	7,500	8,300	8,500	10,000	14,000	16,000	11,200	13,800	17,000	17,600	23,000	25,000	25,500	25,800
Evaporator Fan - Backward curve EC motor, direct drive																
No. of fan assemblies		1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
Std. Motor - kW		2.3	2.3	3.1	3.1	2.3	2.3	2.3	2.3	2.3	3.1	3.1	2.3	2.3	3.1	3.1
Evaporator Coil - Copper tubes with rifled bore tubes, louvred aluminium fins																
No. of rows		3	3	4	4	3	3	4	3	3	4	4	3	3	4	4
Fin series - FPM(FPI)		550 (14)														
Compressor - Copeland Compliant Scroll with Crankase Heater																
No. of compressors		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Unit cooling steps		2 via HGBP							2 via Compressors							
Safety controls - kPa		LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800														
Humidification Control																
Infrared - kg/h		4.5	4.5	4.5	4.5	10	10	10	10	10	10	10	10	10	10	10
Opt. Electrode - kg/h		5	5	5	5	10	10	10	10	10	10	10	10	10	10	10
Dehumidification control -Variable air flow																
Reheat - Single stage, electric heater elements																
1 stage - kW		6	6	6	6	9	9	9	9	9	9	9	12	12	12	12
Opt. 2 stage - kW		12	12	12	12	18	18	18	18	18	18	18	24	24	24	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter																
Nominal W x D x H - mm		800 x 600 x 100														
Qty		1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only																
RFLA		22.7	24.8	31.3	33.2	40.0	45.8	53.4	39.4	43.6	56.6	60.4	61.4	67.2	76.9	86.9
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)																
No. of Condensers		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
No. of MBV		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Valve Size		DN25	DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN32
Flow - l/s		1.1	1.2	1.6	1.8	1.9	2.4	2.8	2.2	2.5	3.2	3.6	3.8	4.4	4.8	5.4
PD - kPa		49	65	80	58	67	85	78	51	65	81	59	66	84	83	72
Unit Connections																
Hot Gas - O.D.		22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Qty		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Liquid - O.D.		16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Qty		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Condenser Water Supply - I.D.		35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Qty		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Condenser Water Return - O.D.		35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Qty		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Drain - Barb - mm		19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight																
Width - mm		853	853	853	853	1703	1703	1703	1703	1703	1703	1703	2553	2553	2553	2553
Depth - mm		873	873	873	873	873	873	873	873	873	873	873	873	873	873	873
Height - mm		1970														
Unit Weight - kg		350	360	370	380	600	610	630	650	670	700	720	970	990	1030	1050
Unit Footprint																
Unit only - m^2		0.74	0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	1.49	1.49	2.23	2.23	2.23	2.23
Incl. Service area - m^2		1.47	1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	2.93	2.93	4.40	4.40	4.40	4.40
Service Access min - mm		850														

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Minimum raised floor height 325mm for EC fan units. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.
5. The Liebert PEX units are now also available with EC Fans. The switching action of the EC Fan power controls may interact with emergency backup generators or UPS systems.

Downflow - Digital Scroll Compressors + EC fans								Air/Water Cooled		50Hz
Model Size PEX	**1020**	**1025**	**1030**	**1035**	**2035**	**2040**	**2050**	**2060**	**2070**	**3070**
Rated Capacity 24°C DB, 50% RH, 45° Condensing										
Total kW	20.3	23.2	27.6	33.2	37.0	41.3	47.2	55.1	67.0	74.0
Sensible kW	20.1	22.6	26.4	30.4	35.2	39.2	44.9	52.8	62.4	72.4
Rated Capacity 24°C DB, 45% RH, 45° Condensing										
Total kW	20.2	23.1	27.3	32.3	36.8	40.9	46.6	54.9	65.8	73.4
Sensible kW	20.1	22.9	27.1	32.1	36.5	40.6	46.3	54.5	65.3	72.7
Air Flow m^3/h	6,500	7,500	7,800	8,500	10,000	11,200	13,800	15,500	17,600	23,000
Evaporator Fan - Backward Curve EC motor, direct drive										
No. of fan assemblies	1	1	1	1	2	2	2	2	2	3
Std. Motor - kW	2.3	2.3	3.1	3.1	2.3	2.3	2.3	3.1	3.1	2.3
Evaporator Coil - Copper tubes with rifled bore tubes, louvred aluminium fins										
No. of rows	3	3	4	4	3	3	3	4	4	3
Fin series - FPM(FPI) (max)	550 (14)									
Compressor - Copeland Compliant Scroll with Crankase Heater										
No. of compressors	1	1	1	1	1	2	2	2	2	2
Unit cooling steps	Variable									
Safety controls - kPa	LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800									
Humidification Control - Variable EC fan speed / Digital Scroll compressor & Humidifier										
Infrared - kg/h	4.5	4.5	4.5	4.5	10	10	10	10	10	10
Opt. Electrode - kg/h	5	5	5	5	10	10	10	10	10	10
Dehumidification control - Reduced air flow										
Reheat - Single stage, electric heater elements										
1 stage - kW	6	6	6	6	9	9	9	9	9	12
Opt. 2 stage - kW	12	12	12	12	18	18	18	18	18	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter										
Nominal W x D x H - mm	800 x 800 x 100									
Qty	1	1	1	1	2	2	2	2	2	3
Electrical 400V 50Hz 3Phase - Std DX unit only										
RFLA	23.4	24.8	30.4	33.2	40.0	40.8	43.6	54.8	60.4	61.4
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)										
No. of Condensers	1	1	1	1	1	2	2	2	2	2
No. of MBV	1	1	1	1	1	2	2	2	2	2
Valve Size	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25
Flow - l/s	1.1	1.2	1.4	1.8	1.9	2.2	2.5	2.9	3.6	3.8
PD - kPa	49	65	66	58	67	51	65	66	59	66
Unit Connections										
Hot Gas - O.D.	22	22	22	22	22	22	22	22	22	22
Qty	1	1	1	1	1	2	2	2	2	2
Liquid - O.D.	16	16	16	16	16	16	16	16	16	16
Qty	1	1	1	1	1	2	2	2	2	2
Condenser Water Supply - I.D.	35	35	35	35	35	35	35	35	35	35
Qty	1	1	1	1	1	2	2	2	2	2
Condenser Water Return - O.D.	35	35	35	35	35	35	35	35	35	35
Qty	1	1	1	1	1	2	2	2	2	2
Drain - Barb - mm	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight										
Width - mm	853	853	853	853	1703	1703	1703	1703	1703	2553
Depth - mm	873	873	873	873	873	873	873	873	873	873
Height - mm	1970									
Unit Weight - kg	350	360	370	380	600	650	670	700	720	970
Unit Footprint										
Unit only - m^2	0.74	0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	2.23
Incl. Service area - m^2	1.47	1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	4.40
Service Access min - mm	850									

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Minimum raised floor height 325mm for EC fan units. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.
5. The Liebert PEX units are now also available with EC Fans. The switching action of the EC Fan power controls may interact with emergency backup generators or UPS systems.

Downflow - DX Scroll compressors + FC fans										Glycol Cooled					50Hz	
Model Size	**PEX**	**1020**	**1025**	**1030**	**1035**	**2035**	**2045**	**2055**	**2040**	**2050**	**2060**	**2070**	**3070**	**3080**	**3090**	**3100**
Rated Capacity 24°C DB, 50% RH, 54° Condensing																
Total kW		18.2	21.5	28.3	31.2	34.2	41.3	48.7	37.0	42.9	56.1	63.0	66.6	74.5	82.6	91.9
Sensible kW		18.1	20.8	25.8	28.6	34.0	40.3	45.6	36.8	41.8	51.6	57.5	65.3	68.4	76.9	85.1
Rated Capacity 24°C DB, 45% RH, 54° Condensing																
Total kW		18.2	21.5	27.0	30.0	34.2	41.1	48.5	37.0	42.9	54.6	60.9	66.6	73.4	80.7	90.5
Sensible kW		18.2	21.4	26.7	29.8	34.0	40.8	48.1	36.9	42.8	54.2	60.4	66.5	72.8	80.0	89.8
Air Flow	m^3/h	5,670	6,660	8,280	8,190	9,900	12,240	13,680	10,980	12,960	16,200	16,020	20,160	20,160	23,940	23,760
Evaporator Fan - Forward curve FC centrifugal fan, induction motor, auto-tensioning belt drive																
No. of fan assemblies		1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
Std. Motor - kW		2.2	2.2	3.0	3.0	2.2	2.2	2.2	2.2	2.2	3.0	3.0	2.2	2.2	3.0	3.0
Evaporator Coil - Copper tubes with rifled bore tubes, louvred aluminium fins																
No. of rows		3	3	3	4	3	3	3	3	3	4	4	3	3	3	4
Fin series - FPM(FPI)		550 (14)														
Compressor - Copeland Compliant Scroll with Crankase Heater																
No. of compressors		3	3	3	4	3	3	3	3	3	4	4	3	3	3	4
Unit cooling steps		2 via HGBP							2 via Compressors							
Safety controls - kPa		LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800														
Humidification Control																
Infrared - kg/h		4.5	4.5	4.5	4.5	10	10	10	10	10	10	10	10	10	10	10
Opt. Electrode - kg/h		5	5	5	5	10	10	10	10	10	10	10	10	10	10	10
Dehumidification control - Partialised Coil, Split Suction, Solenoid Control																
Reheat - Single stage, electric heater elements																
1 stage - kW		5	5	5	5	10	10	10	10	10	10	10	10	10	10	10
Opt. 2 stage - kW		12	12	12	12	18	18	18	18	18	18	18	24	24	24	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter																
Nominal W x D x H - mm		800 x 660 x 100														
Qty		1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only																
RFLA		24.0	26.1	33.1	35.0	42.6	48.4	53.4	42.0	46.2	60.2	64.0	65.3	71.1	82.3	92.3
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)																
No. of Condensers		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
No. of MBV		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Valve Size		DN25	DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN32
Flow - l/s		1.1	1.3	1.7	1.9	2.0	2.5	2.9	2.2	2.6	3.3	3.8	4.0	4.5	4.9	5.7
PD - kPa		46	61	59	60	69	89	77	47	60	58	62	67	85	88	72
Unit Connections																
Glycol Supply - I.D..		35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Qty		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Glycol Return - O.D..		35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Qty		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Drain - Barb - mm		19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight																
Width - mm		853	853	853	853	1703	1703	1703	1703	1703	1703	1703	2553	2553	2553	2553
Depth - mm		873	873	873	873	873	873	873	873	873	873	873	873	873	873	873
Height - mm		1970														
Unit Weight - kg		350	360	370	380	600	610	630	650	670	700	720	970	990	1030	1050
Unit Footprint																
Unit only - m^2		0.74	0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	1.49	1.49	2.23	2.23	2.23	2.23
Incl. Service area - m^2		1.47	1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	2.93	2.93	4.40	4.40	4.40	4.40
Service Access min - mm		850														

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice

Downflow - DX Scroll compressors + EC fans										Glycol Cooled					50Hz	
Model Size PEX	**1020**	**1025**	**1030**	**1035**	**2035**	**2045**	**2055**	**2040**	**2050**	**2060**	**2070**	**3070**	**3080**	**3090**	**3100**
Rated Capacity 24°C DB, 50% RH, 45° Condensing															
Total kW	19.6	22.1	28.3	31.6	34.4	43.4	51.5	38.3	43.9	56.6	63.2	70.4	76.4	83.9	91.7
Sensible kW	19.5	21.9	27.4	29.4	34.1	43.0	51.1	38.0	43.6	55.7	60.4	69.8	75.8	83.2	89.5
Rated Capacity 24°C DB, 45% RH, 45° Condensing															
Total kW	19.5	22.0	28.3	30.8	34.2	43.2	51.3	38.2	43.8	56.4	62.6	70.2	76.2	83.7	91.5
Sensible kW	19.4	21.9	28.1	30.5	34.1	43.1	51.2	38.1	43.7	56.1	62.2	70.0	76.0	83.5	91.3
Air Flow m^3/h	6,500	7,500	8,300	8,500	10,000	14,000	16,000	11,200	13,800	17,000	17,600	23,000	25,000	25,500	25,800
Evaporator Fan - Backward curve EC motor, direct drive															
No. of fan assemblies	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
Std. Motor - kW	2.3	2.3	3.1	3.1	2.3	2.3	2.3	2.3	2.3	3.1	3.1	2.3	2.3	3.1	3.1
Evaporator Coil - Copper tubes with rifled bore tubes, louvred aluminium fins															
No. of rows	3	3	4	4	3	3	4	3	3	4	4	3	3	4	4
Fin series - FPM(FPI) (max)	550 (14)														
Compressor - Copeland Compliant Scroll with Crankase Heater															
No. of compressors	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Unit cooling steps	2 via HGBP							2 via Compressors							
Safety controls - kPa	LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800														
Humidification Control															
Infrared - kg/h	4.5	4.5	4.5	4.5	10	10	10	10	10	10	10	10	10	10	10
Opt. Electrode - kg/h	5	5	5	5	10	10	10	10	10	10	10	10	10	10	10
Dehumidification control - Partialised Coil, Split Suction, Solenoid Control,															
Reheat - Single stage, electric heater elements															
1 stage - kW	6	6	6	6	9	9	9	9	9	9	9	12	12	12	12
Opt. 2 stage - kW	12	12	12	12	18	18	18	18	18	18	18	24	24	24	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter															
Nominal W x D x H - mm	800 x 800 x 100														
Qty	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only															
RFLA	22.7	24.8	31.3	33.2	40.0	45.8	53.4	39.4	43.6	56.6	60.4	61.4	67.2	76.9	86.9
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)															
No. of Condensers	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
No. of MBV	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Valve Size	DN25	DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN32
30% EG v/v, Flow - l/s	1.1	1.3	1.7	1.9	2.0	2.5	3.0	2.2	2.6	3.3	3.8	4.1	4.6	5.0	5.7
PD - kPa	48	62	59	60	70	94	81	48	61	58	62	70	87	91	73
Unit Connections															
Supply - I.D..	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Qty	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Return - O.D..	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Qty	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Drain - Barb - mm	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight															
Width - mm	853	853	853	853	1703	1703	1703	1703	1703	1703	1703	2553	2553	2553	2553
Depth - mm	873	873	873	873	873	873	873	873	873	873	873	873	873	873	873
Height - mm	1970														
Unit Weight - kg	350	360	370	380	600	610	630	650	670	700	720	970	990	1030	1050
Unit Footprint															
Unit only - m^2	0.74	0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	1.49	1.49	2.23	2.23	2.23	2.23
Incl. Service area - m^2	1.47	1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	2.93	2.93	4.40	4.40	4.40	4.40
Service Access min - mm	850														

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Minimum raised floor height 325mm for EC fan units. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.
5. The Liebert PEX units are now also available with EC Fans. The switching action of the EC Fan power controls may interact with emergency backup generators or UPS systems.

Downflow - Digital Scroll Compressors + EC fans									Glycol Cooled		50Hz
Model Size	**PEX**	**1020**	**1025**	**1030**	**1035**	**2035**	**2040**	**2050**	**2060**	**2070**	**3070**
Rated Capacity	**24°C DB, 50% RH, 45°C Condensing**										
	Total kW	19.6	22.1	25.7	31.6	34.4	38.3	43.9	51.5	63.2	70.4
	Sensible kW	19.5	21.9	25.5	29.4	34.1	38.0	43.6	51.1	60.4	69.8
Rated Capacity	**24°C DB, 45% RH, 45°C Condensing**										
	Total kW	19.5	22.0	25.6	30.8	34.2	38.2	43.8	51.3	62.6	70.2
	Sensible kW	19.4	21.9	25.5	30.5	34.1	38.1	43.7	51.0	62.2	70.0
Air Flow	m^3/h	6,500	7,500	7,800	8,500	10,000	11,200	13,800	15,500	17,600	23,000
Evaporator Fan - Backward curve EC motor, direct drive											
	No. of fan assemblies	1	1	1	1	1	1	1	1	1	3
	Std. Motor - kW	2.3	2.3	3.1	3.1	2.3	2.3	2.3	3.1	3.1	2.3
Evaporator Coil - Copper tubes with rifled bore tubes, louvred aluminium fins											
	No. of rows	3	3	4	4	3	3	3	4	4	3
	Fin series - FPM(FPI)	550 (14)									
Compressor - Copeland Compliant Scroll with Crankase Heater											
	No. of compressors	1	1	1	1	1	2	2	2	2	2
	Unit cooling steps	Variable									
	Safety controls - kPa	LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800									
Humidification Control											
	Infrared - kg/h	4.5	4.5	4.5	4.5	10	10	10	10	10	10
	Opt. Electrode - kg/h	5	5	5	5	10	10	10	10	10	10
Dehumidification control -Reduced air flow											
Reheat - Single stage, electric heater elements											
	1 stage - kW	6	6	6	6	9	9	9	9	9	12
	Opt. 2 stage - kW	12	12	12	12	18	18	18	18	18	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter											
	Nominal W x D x H - mm	800 x 800 x 100									
	Qty	1	1	1	1	2	2	2	2	2	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only											
	RFLA	23.4	24.8	30.4	33.2	40.0	40.8	43.6	54.8	60.4	61.4
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)											
	No. of Condensers	1	1	1	1	1	2	2	2	2	2
	No. of MBV	1	1	1	1	1	2	2	2	2	2
	Valve Size	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25
	Flow - l/s	1.1	1.3	1.5	1.9	2.0	2.2	2.6	3.0	3.8	4.1
	PD - kPa	48	62	48	60	70	48	61	49	62	70
Unit Connections											
	Condenser Water Supply - O.D..	35	35	35	35	35	35	35	35	35	35
	Qty	1	1	1	1	1	2	2	2	2	2
	Glycol Return - O.D..	35	35	35	35	35	35	35	35	35	35
	Qty	1	1	1	1	1	2	2	2	2	2
	Drain - Barb - mm	19	19	19	19	19	19	19	19	19	19
	Hum. Supply - BSP - M	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight											
	Width - mm	853	853	853	853	1703	1703	1703	1703	1703	2553
	Depth - mm	873	873	873	873	873	873	873	873	873	873
	Height - mm	1970									
	Unit Weight - kg	350	360	370	380	600	650	670	700	720	970
Unit Footprint											
	Unit only - m^2	0.74	0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	2.23
	Incl. Service area - m^2	1.47	1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	4.40
	Service Access min - mm	850									

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Minimum raised floor height 325mm for EC fan units. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.
5. The Liebert PEX units are now also available with EC Fans. The switching action of the EC Fan power controls may interact with emergency backup generators or UPS systems.

Downflow - DX Scroll compressors + FC fans									Air/Water Cooled				Dual Cool		50Hz
Model Size	**PEX**	**1020**	**1025**	**1030**	**2035**	**2045**	**2055**	**2040**	**2050**	**2060**	**2070**	**3070**	**3080**	**3090**	**3100**
Rated Capacity, 24°C DB, 50% RH, 45° Condensing, CW Based on 7°C EWT, 12°C LWT															
DX	Total kW	20.0	23.1	30.1	36.6	45.0	53.2	41.0	46.4	60.6	66.9	73.9	81.4	89.3	100.0
	Sensible kW	18.9	21.5	26.6	35.1	41.7	47.3	38.5	43.2	53.5	59.0	68.2	71.1	79.6	88.4
CW	Total kW	23.9	26.2	29.4	48.2	54.9	58.6	51.4	57.0	64.2	63.6	86.3	86.3	94.8	95.3
	Sensible kW	20.2	22.6	26.3	38.6	45.1	48.8	41.6	47.0	54.9	54.4	72.0	72.0	81.3	81.4
Rated Capacity 24°C DB, 45% RH, 45° Condensing, CW Based on 7°C EWT, 12°C LWT															
DX	Total kW	19.7	22.4	28.8	36.6	44.0	51.6	40.4	45.6	58.2	64.6	72.4	78.6	85.5	97.9
	Sensible kW	19.5	22.2	28.1	36.3	43.6	50.5	40.1	45.2	56.7	62.7	71.8	75.6	84.3	94.5
CW	Total kW	20.9	23.1	26.7	42.6	48.7	52.0	45.7	50.2	56.9	56.4	75.8	75.8	83.1	83.6
	Sensible kW	20.6	23.1	26.7	39.2	45.9	49.8	42.3	47.8	56.1	55.7	73.4	73.4	83.1	83.1
Air Flow	m^3/h	5,670	6,660	8,280	9,900	12,240	13,680	10,980	12,960	16,200	16,020	20,160	20,160	23,940	23,760
Evaporator Fan - Forward curve FC centrifugal fan, induction motor, auto-tensioning belt drive															
No. of fan assemblies		1	1	1	2	2	2	2	2	2	2	3	3	3	3
Std. Motor - kW		2.2	2.2	3.0	2.2	2.2	2.2	2.2	2.2	3.0	3.0	2.2	2.2	3.0	3.0
Evaporator Coil - Copper tubes with rifled bore tubes, louvred aluminium fins															
No. of rows		6	6	6	6	6	6	6	6	6	7	6	6	6	7
Fin series - FPM(FPI)		550 (14)													
Compressor - Copeland Compliant Scroll with Crankase Heater															
No. of compressors		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Unit cooling steps		2 via HGBP						2 via Compressors							
Safety controls - kPa		LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800													
Humidification Control															
Infrared - kg/h		4.5	4.5	4.5	10	10	10	10	10	10	10	10	10	10	10
Opt. Electrode - kg/h		5	5	5	10	10	10	10	10	10	10	10	10	10	10
Dehumidification control - Standard HVAC dehumidification methology utilised															
Reheat - Single stage, electric heater elements															
1 stage - kW		6	6	6	9	9	9	9	9	9	9	12	12	12	12
Opt. 2 stage - kW		12	12	12	18	18	18	18	18	18	18	24	24	24	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter															
Nominal W x D x H - mm		800 x 800 x 100													
Qty		1	1	1	2	2	2	2	2	2	2	3	3	3	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only															
RFLA		24.0	26.1	33.1	42.6	48.4	53.4	42.0	46.2	60.2	64.0	65.3	71.1	82.3	92.3
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)															
No. of Condensers		1	1	1	1	1	1	2	2	2	2	2	2	2	2
No. of MBV		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Valve Size		DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN32
Flow - l/s		1.1	1.2	1.5	1.9	2.4	2.7	2.2	2.5	3.1	3.6	3.8	4.3	4.6	5.4
PD - kPa		49	64	75	67	84	74	51	65	75	58	65	81	77	71
Unit Connections															
Hot Gas - O.D.		22	22	22	22	22	22	22	22	22	22	22	22	22	22
Qty		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Liquid - O.D.		16	16	16	16	16	16	16	16	16	16	16	16	16	16
Qty		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Condenser Water Supply - I.D.		35	35	35	35	35	35	35	35	35	35	42	42	42	42
Qty		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Condenser Water Return - O.D.		35	35	35	35	35	35	35	35	35	35	42	42	42	42
Qty		1	1	1	1	1	1	2	2	2	2	2	2	2	2
CW Supply - I.D.		25	25	25	35	35	35	35	35	35	35	42	42	42	42
CW Return - O.D.		25	25	25	35	35	35	35	35	35	35	42	42	42	42
Drain - Barb - mm		19	19	19	19	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight															
Width - mm		853	853	853	1703	1703	1703	1703	1703	1703	1703	2553	2553	2553	2553
Depth - mm		873	873	873	873	873	873	873	873	873	873	873	873	873	873
Height - mm		1970									2070		1970		2070
Unit Weight - kg		350	360	370	600	610	630	650	670	700	720	970	990	1030	1050
Unit Footprint															
Unit only - m^2		0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	1.49	1.49	2.23	2.23	2.23	2.23
Incl. Service area - m^2		1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	2.93	2.93	4.40	4.40	4.40	4.40
Service Access min - mm		850													

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.

Downflow - DX Scroll compressors + EC fans		Air/Water Cooled							Dual Cool					50Hz	
Model Size	**PEX**	**1020**	**1025**	**1030**	**2035**	**2045**	**2055**	**2040**	**2050**	**2060**	**2070**	**3070**	**3080**	**3090**	**3100**
Rated Capacity 24°C DB, 50% RH, 45° Condensing, CW Based on 7°C EWT, 12°C LWT															
DX	Total kW	20.3	23.2	30.2	37.0	45.8	54.0	41.3	47.2	61.0	67.0	74.0	82.7	90.1	100.0
	Sensible kW	20.1	22.6	26.8	35.2	44.6	51.0	39.2	44.9	55.3	62.4	72.4	78.4	82.9	92.8
CW	Total kW	25.7	28.0	29.4	48.6	59.7	63.5	52.2	59.0	66.1	67.3	92.6	97.2	97.8	99.0
	Sensible kW	22.2	24.6	26.3	38.9	49.6	54.4	42.2	49.1	56.7	58.1	79.0	83.8	84.9	86.1
Rated Capacity 24°C DB, 45% RH, 45° Condensing, CW Based on 7°C EWT, 12°C LWT															
DX	Total kW	20.2	23.1	28.7	36.8	45.5	53.0	40.9	46.6	58.6	65.8	73.4	81.5	87.3	98.0
	Sensible kW	20.1	22.9	28.3	36.5	45.0	52.6	40.6	46.3	58.2	65.3	72.7	80.9	86.6	97.2
CW	Total kW	22.7	25.0	26.8	42.9	52.5	56.3	46.0	52.4	58.6	59.7	81.3	85.7	86.8	88.0
	Sensible kW	22.7	25.0	26.8	39.5	50.6	55.6	42.9	50.1	58.1	59.5	80.7	85.7	86.8	88.0
Air Flow	m^3/h	6,500	7,500	8,300	10,000	14,000	16,000	11,200	13,800	17,000	17,600	23,000	25,000	25,500	25,800
Evaporator Fan - Backward Curve EC motor, direct drive															
No. of fan assemblies		1	1	1	2	2	2	2	2	2	2	3	3	3	3
Std. Motor - kW		2.3	2.3	3.1	2.3	2.3	2.3	2.3	2.3	3.1	3.1	2.3	2.3	3.1	3.1
Dual Cool DX Evaporator & Chilled Water Coil - Copper tubes with rifled bore tubes, louvred aluminium fins															
No. of rows		6	6	6	6	6	6	6	6	6	7	6	6	6	7
Fin series - FPM(FPI)		550 (14)													
Compressor - Copeland Compliant Scroll with Crankase Heater															
No. of compressors		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Unit cooling steps		2 via HGBP						2 via Compressors							
Safety controls - kPa		LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800													
Humidification Control															
Infrared - kg/h		4.5	4.5	4.5	10	10	10	10	10	10	10	10	10	10	10
Opt. Electrode - kg/h		5	5	5	10	10	10	10	10	10	10	10	10	10	10
Dehumidification control - Reduced air flow															
Reheat - Single stage, electric heater elements															
1 stage - kW		6	6	6	9	9	9	9	9	9	9	12	12	12	12
Opt. 2 stage - kW		12	12	12	18	18	18	18	18	18	18	24	24	24	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter															
Nominal W x D x H - mm		800 x 800 x 100													
Qty		1	1	1	2	2	2	2	2	2	2	3	3	3	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only															
RFLA		22.7	24.8	31.3	40.0	45.8	53.4	39.4	43.6	56.6	60.4	61.4	67.2	76.9	86.9
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)															
No. of Condensers		1	1	1	1	1	1	2	2	2	2	2	2	2	2
No. of MBV		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Valve Size		DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN32
Flow - l/s		1.1	1.2	1.5	1.9	2.4	2.8	2.2	2.5	3.1	3.6	3.8	4.4	4.6	5.4
PD - kPa		49	65	75	67	85	75	51	65	76	59	66	84	78	72
Unit Connections															
Hot Gas - O.D.		22	22	22	22	22	22	22	22	22	22	22	22	22	22
Qty		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Liquid - O.D.		16	16	16	16	16	16	16	16	16	16	16	16	16	16
Qty		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Condenser Water Supply - I.D.		35	35	35	35	35	35	35	35	35	35	42	42	42	42
Qty		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Condenser Water Return - O.D.		35	35	35	35	35	35	35	35	35	35	42	42	42	42
Qty		1	1	1	1	1	1	2	2	2	2	2	2	2	2
CW Supply - I.D.		25	25	25	35	35	35	35	35	35	35	42	42	42	42
CW Return - O.D.		25	25	25	35	35	35	35	35	35	35	42	42	42	42
Drain - Barb - mm		19	19	19	19	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight															
Width - mm		853	853	853	1703	1703	1703	1703	1703	1703	1703	2553	2553	2553	2553
Depth - mm		873	873	873	873	873	873	873	873	873	873	873	873	873	873
Height - mm						1970					2070		1970		2070
Unit Weight - kg		350	360	370	600	610	630	650	670	700	720	970	990	1030	1050
Unit Footprint															
Unit only - m^2		0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	1.49	1.49	2.23	2.23	2.23	2.23
Incl. Service area - m^2		1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	2.93	2.93	4.40	4.40	4.40	4.40
Service Access min - mm		850													

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Minimum raised floor height 325mm for EC fan units. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.
5. The Liebert PEX units are now also available with EC Fans. The switching action of the EC Fan power controls may interact with emergency backup generators or UPS systems.

Downflow - Digital Scroll Compressors + EC fans								Dual Cool		50Hz
Model Size	**PEX**	**1020**	**1025**	**1030**	**2035**	**2040**	**2050**	**2060**	**2070**	**3070**
Rated Capacity 24°C DB, 50% RH, 45° Condensing, CW Based on 7°C EWT, 12°C LWT										
DX	Total kW	20.3	23.2	27.4	37.0	41.3	47.2	55.6	67.0	74.0
	Sensible kW	20.1	22.6	25.1	35.2	39.2	44.9	51.2	62.4	72.4
CW	Total kW	25.7	28.0	28.7	48.6	52.2	59.0	63.1	67.3	92.6
	Sensible kW	22.2	24.6	25.3	38.9	42.2	49.1	53.3	58.1	79.0
Rated Capacity 24°C DB, 45% RH, 45° Condensing, CW Based on 7°C EWT, 12°C LWT										
DX	Total kW	20.2	23.1	26.4	36.8	40.9	46.6	53.8	65.8	73.4
	Sensible kW	20.1	22.9	26.2	36.5	40.6	46.3	53.4	65.3	72.7
CW	Total kW	22.7	25.0	25.8	42.9	46.0	52.4	55.5	59.7	81.3
	Sensible kW	22.7	25.0	25.8	39.5	42.9	50.1	54.4	59.5	80.7
Air Flow	m^3/h	6,500	7,500	7,800	10,000	11,200	13,800	15,500	17,600	23,000
Evaporator Fan - Backward curve EC motor, direct drive										
No. of fan assemblies		1	1	1	2	2	2	2	2	3
Std. Motor - kW		2.3	2.3	3.1	2.3	2.3	2.3	3.1	3.1	2.3
Dual Cool DX Evaporator & Chilled Water Coil - Copper tubes with rifled bore tubes, louvred aluminium fins										
No. of rows		6	6	6	6	6	6	6	7	6
Fin series - FPM(FPI)		550 (14)								
Compressor - Copeland Compliant Scroll with Crankase Heater										
No. of compressors		1	1	1	1	2	2	2	2	2
Unit cooling steps		Variable								
Safety controls - kPa		LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800								
Humidification Control										
Infrared - kg/h		4.5	4.5	4.5	10	10	10	10	10	10
Opt. Electrode - kg/h		5	5	5	10	10	10	10	10	10
Dehumidification control - Reduced air flow										
Reheat - Single stage, electric heater elements										
1 stage - kW		6	6	6	9	9	9	9	9	12
Opt. 2 stage - kW		12	12	12	18	18	18	18	18	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter										
Nominal W x D x H - mm		800 x 660 x 100								
Qty		1	1	1	2	2	2	2	2	3
Full Load Current - 400 Volts, 3 phase+N+E, 50 Hz Supply - Std DX unit only										
RFLA		23.4	24.8	30.4	40.0	40.8	43.6	54.8	60.4	61.4
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV (Opt. 2 Way MBV)										
No. of Condensers		1	1	1	1	2	2	2	2	2
No. of MBV		1	1	1	1	2	2	2	2	2
Valve Size		DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25
Flow - l/s		1.1	1.2	1.4	1.9	2.2	2.5	2.8	3.6	3.8
PD - kPa		49	65	62	67	51	65	63	59	66
Unit Connections										
Hot Gas - O.D.		22	22	22	22	22	22	22	22	22
Qty		1	1	1	1	2	2	2	2	2
Liquid - O.D.		16	16	16	16	16	16	16	16	16
Qty		1	1	1	1	2	2	2	2	2
Condenser Water Supply - I.D.		35	35	35	35	35	35	35	35	35
Qty		1	1	1	1	2	2	2	2	2
Condenser Water Return - O.D.		35	35	35	35	35	35	35	35	35
Qty		1	1	1	1	2	2	2	2	2
CW Supply - I.D.		25	25	25	35	35	35	35	35	35
CW Return - O.D.		25	25	25	35	35	35	35	35	35
Drain - Barb - mm		19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight										
Width - mm		853	853	853	1703	1703	1703	1703	1703	2553
Depth - mm		873	873	873	873	873	873	873	873	873
Dual Cool Height - kg					1970				2070	1970
Unit Weight - kg		350	360	370	600	650	670	700	720	970
Unit Footprint										
Unit only - m^2		0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	2.23
Incl. Service area - m^2		1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	4.40
Service Access min - mm		850								

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Minimum raised floor height 325mm for EC fan units. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.
5. The Liebert PEX units are now also available with EC Fans. The switching action of the EC Fan power controls may interact with emergency backup generators or UPS systems.

Downflow - DX Scroll Compressors + FC fans									Free Cool					50Hz	
Model Size	**PEX**	**1020**	**1025**	**1030**	**2035**	**2045**	**2055**	**2040**	**2050**	**2060**	**2070**	**3070**	**3080**	**3090**	**3100**
Rated Capacity 24°C DB, 50% RH, 54° Condensing, CW Based on 7°C EWT, 12°C LWT and Glycol 30%															
DX	Total kW	18.2	21.5	28.3	34.2	41.3	48.7	37.0	42.9	56.1	63.0	66.6	74.5	82.6	91.9
	Sensible kW	18.1	20.8	25.8	34.0	40.3	45.6	36.8	41.8	51.6	57.5	65.3	68.4	76.9	85.1
Free Cool	Total kW	21.8	24.0	26.9	44.1	50.2	53.6	47.0	52.2	58.8	58.2	79.0	79.0	86.7	87.3
	Sensible kW	19.1	21.4	24.9	36.5	42.6	46.1	39.4	44.4	51.9	51.5	68.1	68.1	76.8	76.9
Rated Capacity 24°C DB, 45% RH, 54° Condensing, CW Based on 7°C EWT, 12°C LWT and Glycol 30%															
DX	Total kW	18.2	21.5	27.0	34.2	42.7	48.5	37.0	42.9	54.6	60.9	66.6	73.4	80.7	90.5
	Sensible kW	18.2	21.4	26.7	34.0	41.2	48.1	36.9	42.8	54.2	60.4	66.5	72.8	80.0	89.8
Free Cool	Total kW	19.2	21.1	24.5	39.0	44.6	47.6	41.8	45.9	52.1	51.6	69.4	69.4	76.0	76.6
	Sensible kW	18.8	21.1	24.5	35.8	42.0	45.5	38.8	43.8	51.4	50.9	67.2	67.2	76.0	76.1
Air Flow	m^3/h	5,670	6,660	8,280	9,900	12,240	13,680	10,980	12,960	16,200	16,020	20,160	20,160	23,940	23,760
Evaporator Fan - Forward curve FC centrifugal fan, induction motor, auto-tensioning belt drive															
No. of fan assemblies		1	1	1	2	2	2	2	2	2	2	3	3	3	3
Std. Motor - kW		2.2	2.2	3.0	2.2	2.2	2.2	2.2	2.2	3.0	3.0	2.2	2.2	3.0	3.0
Evaporator Coil - Copper tubes with rifled bore tubes, louvred aluminium fins															
No. of rows		6	6	6	6	6	6	6	6	6	7	6	6	6	7
Fin series - FPM(FPI)		550 (14)													
Compressor - Copeland Compliant Scroll with Crankase Heater															
No. of compressors		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Unit cooling steps		2 via HGBP						2 via Compressors							
Safety controls - kPa		LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800													
Humidification Control															
Infrared - kg/h		4.5	4.5	4.5	10	10	10	10	10	10	10	10	10	10	10
Opt. Electrode - kg/h		5	5	5	10	10	10	10	10	10	10	10	10	10	10
Dehumidification control -Standard HVAC dehumidification methology utilised															
Reheat - Single stage, electric heater elements															
1 stage - kW		6	6	6	9	9	9	9	9	9	9	12	12	12	12
Opt. 2 stage - kW		12	12	12	18	18	18	18	18	18	18	24	24	24	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter															
Nominal W x D x H - mm		800 x 800 x 100													
Qty		1	1	1	2	2	2	2	2	2	2	3	3	3	3
Electrical 400V 50Hz 3Phase - Std DX unit only															
RFLA		24.0	26.1	33.1	42.6	48.4	53.4	42.0	46.2	60.2	64.0	65.3	71.1	82.3	92.3
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV															
No. of Condensers		1	1	1	1	1	1	2	2	2	2	2	2	2	2
No. of MBV		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Valve Size		DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN32
Flow - l/s		1.1	1.3	1.6	2.0	2.5	2.9	2.2	2.6	3.3	3.8	4.0	4.5	4.8	5.7
PD - kPa		46	61	56	69	89	74	47	60	56	62	67	85	85	72
Unit Connections															
Glycol Supply - I.D.		35	35	35	35	35	35	35	35	35	35	42	42	42	42
Qty		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Glycol Return - O.D.		35	35	35	35	35	35	35	35	35	35	42	42	42	42
Qty		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Drain - Barb - mm		19	19	19	19	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight															
Width - mm		853	853	853	1703	1703	1703	1703	1703	1703	1703	2553	2553	2553	2553
Depth - mm		873	873	873	873	873	873	873	873	873	873	873	873	873	873
Height - mm					1970						2070		1970		2070
Unit Weight - kg		350	360	370	600	610	630	650	670	700	720	970	990	1030	1050
Unit Footprint															
Unit only - m^2		0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	1.49	1.49	2.23	2.23	2.23	2.23
Incl. Service area - m^2		1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	2.93	2.93	4.40	4.40	4.40	4.40
Service Access min - mm		850													

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice

Downflow - DX Scroll Compressors + EC fans									Free Cool					50Hz	
Model Size	**PEX**	**1020**	**1025**	**1030**	**2035**	**2045**	**2055**	**2040**	**2050**	**2060**	**2070**	**3070**	**3080**	**3090**	**3100**
Rated Capacity 24°C DB, 50% RH, 54° Condensing, CW Based on 7°C EWT, 12°C LWT and Glycol 30%															
DX	Total kW	19.6	22.1	28.1	34.4	43.4	49.7	38.3	43.9	56.6	63.5	70.4	76.4	83.0	91.7
	Sensible kW	19.5	21.9	26.0	34.1	43.0	49.3	38.0	43.6	53.6	60.4	69.8	75.8	80.1	89.5
Free Cool	Total kW	23.5	25.7	27.0	44.5	54.6	58.2	47.8	54.0	60.5	61.6	84.8	89.0	89.5	90.6
	Sensible kW	21.0	23.2	24.9	36.8	46.9	51.4	39.9	46.4	53.6	54.9	74.7	79.2	80.2	81.4
Rated Capacity 24°C DB, 45% RH, 54° Condensing, CW Based on 7°C EWT, 12°C LWT and Glycol 30%															
DX	Total kW	19.5	22.0	27.3	34.2	43.2	49.5	38.2	43.8	55.8	62.6	70.2	76.2	82.7	91.5
	Sensible kW	19.4	21.9	27.1	34.1	43.1	49.4	38.1	43.7	55.4	62.2	70.0	76.0	82.0	91.3
Free Cool	Total kW	20.8	22.9	24.5	39.3	48.1	51.6	42.1	48.0	53.7	54.6	74.4	78.4	79.5	80.5
	Sensible kW	20.8	22.9	24.5	36.1	46.3	50.9	39.3	45.8	53.2	54.5	73.9	78.4	79.5	80.5
Air Flow	m^3/h	6,500	7,500	8,300	10,000	14,000	16,000	11,200	13,800	17,000	17,600	23,000	25,000	25,500	25,800
Evaporator Fan - Backward curve FC motor, direct drive															
No. of fan assemblies		1	1	1	2	2	2	2	2	2	2	3	3	3	3
Std. Motor - kW		2.3	2.3	3.1	2.3	2.3	2.3	2.3	2.3	3.1	3.1	2.3	2.3	3.1	3.1
Free Cool DX Evaporator & Chilled Water Coil - Copper tubes with rifled bore tubes, louvred aluminium fins															
No. of rows		6	6	6	6	6	6	6	6	6	7	6	6	6	7
Fin series - FPM(FPI) (max)		550 (14)													
Compressor - Copeland Compliant Scroll with Crankase Heater															
No. of compressors		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Unit cooling steps		2 via HGBP						2 via Compressors							
Safety controls - kPa		LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800													
Humidification Control															
Infrared - kg/h		4.5	4.5	4.5	10	10	10	10	10	10	10	10	10	10	10
Opt. Electrode - kg/h		5	5	5	10	10	10	10	10	10	10	10	10	10	10
Dehumidification control - Variable EC fan speed															
Reheat - Single stage, electric heater elements															
1 stage - kW		6	6	6	9	9	9	9	9	9	9	12	12	12	12
Opt. 2 stage - kW		12	12	12	18	18	18	18	18	18	18	24	24	24	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter															
Nominal W x D x H - mm		800 x 800 x 100													
Qty		1	1	1	2	2	2	2	2	2	2	3	3	3	3
Electrical 400V 50Hz 3Phase - Std DX unit only															
RFLA		22.7	24.8	31.3	40.0	45.8	53.4	39.4	43.6	56.6	60.4	61.4	67.2	76.9	86.9
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV															
No. of Condensers		1	1	1	1	1	1	2	2	2	2	2	2	2	2
No. of MBV		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Valve Size		DN25	DN25	DN25	DN25	DN25	DN32	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN32
Flow - l/s		1.1	1.3	1.6	2.0	2.5	2.9	2.2	2.6	3.3		4.1	4.6	4.8	5.7
PD - kPa		48	62	56	70	94	76	48	61	56		70	87	86	73
Unit Connections															
Glycol Supply - I.D.		35	35	35	35	35	35	35	35	35	35	42	42	42	42
Qty		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Glycol Return - O.D.		35	35	35	35	35	35	35	35	35	35	42	42	42	42
Qty		1	1	1	1	1	1	2	2	2	2	2	2	2	2
Drain - Barb - mm		19	19	19	19	19	19	19	19	19	19	19	19	19	19
Hum. Supply - BSP - M		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight															
Width - mm		853	853	853	1703	1703	1703	1703	1703	1703	1703	2553	2553	2553	2553
Depth - mm		873	873	873	873	873	873	873	873	873	873	873	873	873	873
Height - mm					1970						2070		1970		2070
Unit Weight - kg		350	360	370	600	610	630	650	670	700	720	970	990	1030	1050
Unit Footprint															
Unit only - m^2		0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	1.49	1.49	2.23	2.23	2.23	2.23
Incl. Service area - m^2		1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	2.93	2.93	4.40	4.40	4.40	4.40
Service Access min - mm		850													

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Minimum raised floor height 325mm for EC fan units. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.
5. The Liebert PEX units are now also available with EC Fans. The switching action of the EC Fan power controls may interact with emergency backup generators or UPS systems.

Downflow - Digital Scroll Compressors + EC fans						Free Cool				50Hz
Model Size	**PEX**	**1020**	**1025**	**1030**	**2035**	**2040**	**2050**	**2060**	**2070**	**3070**
Rated Capacity 24°C DB, 50% RH, 54° Condensing, CW Based on 7°C EWT, 12°C LWT and Glycol 30%										
DX	Total kW	19.6	22.1	25.4	34.4	38.3	43.9	51.4	63.5	70.4
	Sensible kW	19.5	21.9	24.3	34.1	38.0	43.6	49.6	60.4	69.8
Free Cool	Total kW	23.5	25.7	26.2	44.5	47.8	54.0	57.8	61.2	84.8
	Sensible kW	21.0	23.2	23.9	36.8	39.9	46.4	50.4	54.7	74.7
Rated Capacity 24°C DB, 45% RH, 54° Condensing, CW Based on 7°C EWT, 12°C LWT and Glycol 30%										
DX	Total kW	19.5	22.0	25.2	34.2	38.2	43.8	51.1	62.6	70.2
	Sensible kW	19.4	21.9	25.0	34.1	38.1	43.7	50.7	62.2	70.0
Free Cool	Total kW	20.8	22.9	23.6	39.3	42.1	48.0	50.8	54.3	74.4
	Sensible kW	20.8	22.9	23.6	36.1	39.3	45.8	49.8	54.3	73.9
Air Flow	m^3/h	6,500	7,500	7,800	10,000	11,200	13,800	15,500	17,600	23,000
Evaporator Fan - Backward curve EC motor, direct drive										
	No. of fan assemblies	1	1	1	2	2	2	2	2	3
	Std. Motor - kW	2.3	2.3	3.1	2.3	2.3	2.3	3.1	3.1	2.3
Free Cool DX Evaporator & Chilled Water Coil - Copper tubes with rifled bore tubes, louvred aluminium fins										
	No. of rows	6	6	6	6	6	6	6	6	6
	Fin series - FPM(FPI) (max)	550 (14)								
Compressor - Copeland Compliant Scroll with Crankase Heater										
	No. of compressors	1	1	1	1	2	2	2	2	2
	Unit cooling steps	Variable								
	Safety controls - kPa	LP cut out/in(auto reset) 140/420, HP cut out (manual reset) 2800								
Humidification Control - Variable EC fan speed/ Digital Scroll Compressor & Humidifier										
	Infrared - kg/h	4.5	4.5	4.5	10	10	10	10	10	10
	Opt. Electrode - kg/h	5	5	5	10	10	10	10	10	10
Dehumidification control - Variable EC fan speed										
Reheat - Single stage, electric heater elements										
	1 stage - kW	6	6	6	9	9	9	9	9	12
	Opt. 2 stage - kW	12	12	12	18	18	18	18	18	24
Filter - Metal Frame, Deep V dry media disposable G4 type filter										
	Nominal W x D x H - mm	800 x 660 x 100								
	Qty	1	1	1	2	2	2	2	2	3
Electrical 400V 50Hz 3Phase - Std DX unit only										
	RFLA	23.4	24.8	30.4	40.0	40.8	43.6	54.8	60.4	61.4
Water Cooled Condenser - 316SS Brazed Plate Heat Exchanger- 3 Way MBV										
	No. of Condensers	1	1	1	1	2	2	2	2	2
	No. of MBV	1	1	1	1	2	2	2	2	2
	Valve Size	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25
	Flow - l/s	1.1	1.3	1.6	2.0	2.2	2.6	3.3	3.8	4.1
	PD - kPa	48	62	56	70	48	61	56	62	70
Unit Connections										
	Condenser Water Supply - I.D.	35	35	35	35	35	35	35	35	42
	Qty	1	1	1	1	2	2	2	2	2
	Condenser Water Return - O.D.	35	35	35	35	35	35	35	35	42
	Qty	1	1	1	1	2	2	2	2	2
	Drain - Barb - mm	19	19	19	19	19	19	19	19	19
	Hum. Supply - BSP - M	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Unit Dimensions & Weight										
	Width - mm	853	853	853	1703	1703	1703	1703	1703	2553
	Depth - mm	873	873	873	873	873	873	873	873	873
	Height - mm			1970					2070	1970
	Unit Weight - kg	350	360	370	600	650	670	700	720	970
Unit Footprint										
	Unit only - m^2	0.74	0.74	0.74	1.49	1.49	1.49	1.49	1.49	2.23
	Incl. Service area - m^2	1.47	1.47	1.47	2.93	2.93	2.93	2.93	2.93	4.40
	Service Access min - mm	850								

Notes

1. All rated capacities are nominal values based on an ESP for Downflow 20pa and for Upflow 50Pa, at sea level for R407C & R22. For net capacities, deduct fan input power. Refer to the Liebert PEX Rating Program for specific input conditions, air flow, and configuration.
2. Minimum unit depth without front panels and hinges is 841mm. Minimum raised floor height 325mm for EC fan units. Weights shown are for water cooled DX models only.
3. Input power supply 400V +/-15%, 50Hz +/- 2. RFLA is for the standard configuration unit only and excludes all heat rejection equipment, Chillers and Pumps etc. RFLA based on standard unit. Refer to Liebert PEX Rating Program & User Manual for electrical data on optional equipment.
4. All information and Technical Data are subject to change without notice.
5. The Liebert PEX units are now also available with EC Fans. The switching action of the EC Fan power controls may interact with emergency backup generators or UPS systems.

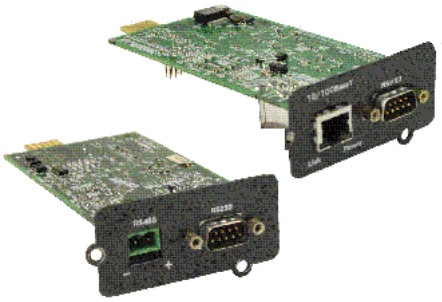
The Liebert *iCOM* control system featured on the Liebert PEX brings high-level supervision to multiple units allowing them to work together as a single system to optimise room performance. The Liebert *iCOM* control system offers a variety of advantages.

The Large Graphic Display features a 128x64 dot matrix backlit screen. Advanced monitoring can be achieved with the addition of the Optional Wall Mounted Display.

Intelligent Communications and Monitoring

- **Saves Energy using Predictive Humidity Control**
- **Built-in Lead/Lag Functions for enhanced system reliability**
- **Wellness Calculation alerts service personnel before problems occur**
- **Unit to Unit (U2U) Communications allows Lead/Lag and optional teamwork settings for maximum flexibility and control**
- **Optional IntelliSlot cards offer external monitoring through Modbus RTU and HTTP/ SNMP protocols**

The optional Wall Mounted Large Graphic Display provides centralised monitoring and control of connected Liebert PEX units.



Liebert IntelliSlot cards can provide Liebert SiteScan® Web and BMS systems with the capability to monitor your Liebert PEX unit.

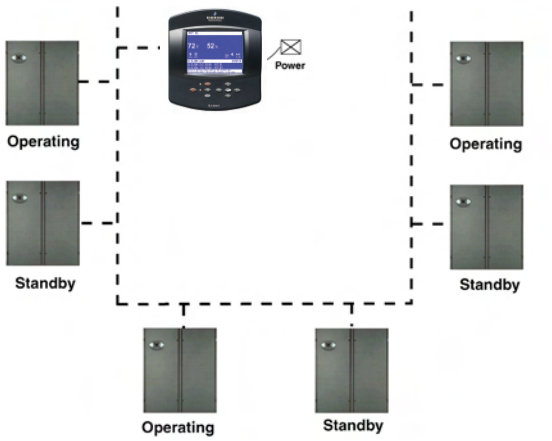
Additional Views Available with Large Graphic Displays

- **System View - Allows you to see the average operation of the "system" or all units that are working together in Unit to Unit (U2U) Communications mode for Teamwork or Lead/Lag from a centralised location.**
- **Unit Diary - Free field area within the unit memory where unit maintenance shares history with any authorised users, including record of what others have done.**

The Large Graphic Display features a 320x240 dot matrix backlit screen with helpful system and maintenance views.

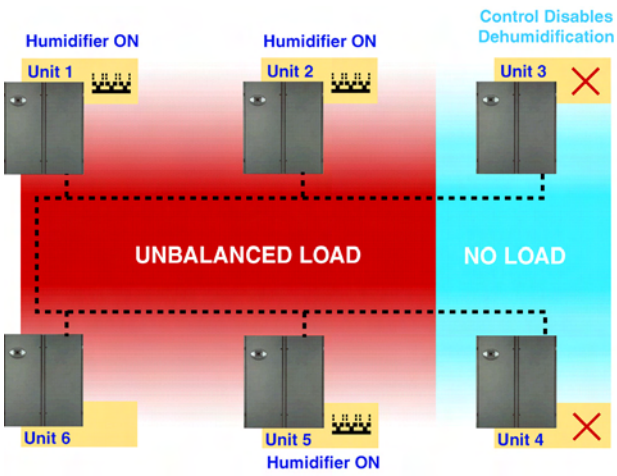
U2U Configuration Example

Liebert PEX units with Small Graphic Display may be centrally monitored and controlled with the Optional Wall Mounted Large Graphic Display.



Teamwork: Mode 2

Units work together to provide precision cooling in rooms with unbalanced loads.



(Note: Field supplied network switch required for unit-to-unit communications. vNSA Network Switch option is available.)

Refer to *iCOM User* manual for further information on iCOM features and operation.

GENERAL

Summary

These specifications describe requirements for a Mission Critical Cooling system. The system shall be designed to control temperature and humidity conditions in rooms containing electronic equipment, with good insulation and vapour barrier. The manufacturer shall design and furnish all equipment to be fully compatible with heat dissipation requirements of the room.

PRODUCT

Design Requirements

The Mission Critical Cooling system shall be a Liebert PEX model _____ self-contained factory assembled unit with (upflow) (downflow) air delivery. The system shall have a total cooling capacity of _____ kW, with a sensible cooling capacity of _____ kW, based on an entering air temperature of _____ °C dry bulb and _____ °C wet bulb. The unit is to be supplied with _____ volt ____ ph ____Hz electrical service and include a rating nameplate stating the unit RFLA.

Cabinet Construction

The frame shall be constructed of 2.5, 2.0 and 1.2 mm folded galvanised steel. The exterior panels shall be constructed of 1.2 mm zinc coated sheet steel and insulated with foam insulation. The cabinet shall be powder coated in Charcoal Grey colour and have a textured finish. The hinged front doors shall be removeable and include captive 1/4 turn fasteners. The cabinet shall be constructed to provide ease of disassembly & reassembly for difficult access sites..

Filtration

The filter panels shall be an integral part of the system and withdrawable from the front of the unit. Filtration shall be provided by deep V form, dry disposable media housed in a metal frame. The rated efficiency shall be to EU4/MERV8 Standards.

FC Fans - Dual Cool - Direct Expansion & Chilled Water

The fan section shall be designed for _____ m^3/h at an external static pressure of _____ Pa. The unit shall be fitted with one (two,three) belt-driven, forward curved (FC) centrifugal type, double width, double inlet fan(s). Each fan shall be separately driven by an EFF2 efficiency electric motor rated at _____ kW at _____ RPM with an IP55 enclosure rating. The drive arrangement shall be auto-tensioning and provide for belt replacement without the use of tools. The fan shall be statically and dynamically balanced.

EC Fans - Dual Cool - Direct Expansion & Chilled Water

The fan section shall be designed for _____ m^3/h at an external static pressure of _____ Pa. The unit shall be fitted with one (two,three) direct-driven, high efficiency, single inlet, backward curved, centrifugal 'plug' type fan(s), with aluminium nozzle(s) and impeller(s). The fan motors shall be Electronically Commutated (EC), IP54, with internal protection and speed regulation via controller signal. They shall be statically and dynamically balanced.

Direct Expansion DX - FC fans

The fan section shall be designed for_____m^3 /h at an external static pressure of ___Pa. The unit shall be fitted with one (two, three) belt driven, forward curve (FC) centrifugal type, double width, double inlet fan(s). Each fan shall be separately driven by an EEF2 efficiency electric motor rated at ___kW at _____RPM with an IP 55 enclosure rating. The Drive arrangement shall be auto self tensioning and provide for belt replacement without the use of tools. They shall be statically and dynamically balanced.

HUMIDIFIER

A humidifier shall be factory installed inside the unit. Bypass air shall be used to enable moisture to be absorbed into the bypass airstream without condensation. The humidifier capacity shall be _____ kg/hr (lb/hr). The humidifier shall be serviceable and removable from the front of the unit.

Infrared Humidifier

The humidifier shall be of the infrared type consisting of high intensity quartz lamps mounted above and out of the water supply. The humidifier pan shall be stainless steel and arranged to be removeable without disconnecting high voltage electrical connections. The complete humidifier section shall be pre-piped, ready for field connection to water supply. The humidifier shall be equipped with an automatic water supply system and shall have an adjustable water-overfeed to prevent mineral precipitation. A high-water detector shall shut down the humidifier to prevent overflowing. Full capacity operation shall be achieved within 10 sec from cold start.

ELECTRIC HEATING

Electric heating shall be provided in a single stage. The elements shall be low watt density, 304/304 stainless steel fin tubular construction, protected by thermal safety switches. The heating system shall include dual safety protection through loss of air and manual reset high temperature controls, and GCD protected.

Optional 2nd Stage Electric Heating

Electric heating shall be provided in two equal stages. The elements shall be low watt density, 304/304 stainless steel fin tubular construction, protected by thermal safety switches. The heating system shall include dual safety protection through loss of air and manual reset high temperature controls.

COMPRESSORISED SYSTEMS

Scroll Compressor

The compressor shall be of the high efficiency Compliant Scroll design, with an E.E.R. (energy efficiency ratio) of not less than _____ BTUH/watt (C.O.P. of not less than _____) at ARI rating conditions. The compressor shall be charged with polyolester oil (POE) and designed for operation on HCFC R22 or HFC R407C. Each compressor shall have internal motor protection and be mounted on vibration isolators.

Digital Scroll Compressor

The compressor shall be of the high efficiency Digital Scroll design, with an E.E.R. (energy efficiency ratio) of not less than___ BTUH/watt (C.O.P. of not less than at ARI rating conditions. The compressor shall be charged with polyolester oil (POE) and designed for operation on HFC R407C. Each compressor shall have standard internal motor protection and be mounted on vibration isolators.

Refrigeration Circuit

The refrigeration system shall be of the direct expansion type with two cooling stages and incorporate one or two hermetic scroll compressors, complete with crankcase heaters and rotalock connections. A hot gas bypass solenoid valve shall be used on single compliant scroll compressor models. The system shall include a manual reset high pressure control, auto reset low pressure switch, externally equalised thermal expansion valve, high sensitivity refrigerant sight glass, large capacity filter drier with rotalock connections and charging/access ports in each circuit.

Thermal Expansion Valve

To provide quick and accurate Refrigerant system set up and calibration the thermal expansion valve (TXV) shall be accessible to allow system set up and calibration while the unit is running.

Evaporator Coil
The evaporator coil shall be a V-coil (for upflow) / A-coil (for downflow) incorporating draw-through air design for uniform air distribution. The coil shall be constructed of enhanced surface aluminium fins mechanically bonded to enhanced surface copper tubes. The coil frame is fabricated from Hot dipped galvanized sheetmetal and the stainless steel condensate drip tray. The evaporator drain tray shall incorporate double sloped gutters for condensate removal. The cooling coil shall be a maximum of 7 rows and 550 fins per metre (14 FPI).

Dehumidification – FC Fan Dual Cool and Free Cool units
Standard HVAC dehumidification methology utilised.

Dehumidification - FC Fan Compliant Scroll Compressor Air & Water Cooled Units
A specific dehumidification cycle (split-suction) shall operate by reducing the operating surface temperature in a section of the refrigeration coil by means of a solenoid valve on the suction header. Room loads as low as (40% for 2 compressor models) (70% for 1 compressor models) of the unit sensible cooling capacity shall be supported during dehumidification without the need for larger capacity or additional heating stages. Dehumidification shall be deactivated when the return air temperature drops below a predefined value.

Dehumidification - EC Fan Air, Water Cooled, Dual Cool and Free Cool Units
A specific dehumidification cycle shall operate by reducing airflow to lower the surface temperature of the evaporator/cooling coil below the return air dewpoint condition.

Air Cooled Systems
The indoor evaporator unit shall include refrigerant piping, with a factory holding charge of Nitrogen. Each refrigeration circuit shall include rigidly mounted isolation valves in the discharge and liquid lines to aid servicing and installation. Field relief of the schrader valve shall indicate a leak-free system. A 3 pole circuit breaker shall be factory fitted per refrigeration circuit for field connection of power to each remote air cooled condenser.

Remote Air Cooled Condenser
The model LSF ___ factory matched air cooled condensers shall be the low profile, weatherproof type incorporating high efficiency, direct drive, external rotor motors with axial blade fans. The condenser shall balance the heat rejection of the compressor at ___°C ambient. The condenser shall be constructed from heavy duty aluminium and corrosion resistant components. Heavy duty mounting legs and all assembly hardware shall be included. Condensers shall be suitable for 24 hour operation and be capable of providing vertical or horizontal discharge. The condenser shall be fully factory wired to an input isolator and require ___ volt 3 phase ___Hz electrical service.
The high performance heat exchanger condenser shall include mechanically expanded enhanced surface copper tubes and aluminium fins for efficient heat transfer.
The coil shall be have a maximum of __ rows and _____ fins per metre (__ FPI).

Fan Speed Control Condenser
The condenser fans shall be directly driven by __ pole _____ rpm ____ volt ____ Hz electric motors with an IP54 enclosure rating and class F insulation. The motors shall be equipped with permanently sealed ball bearings and high temperature grease. The motors shall be speed controlled to ensure stable operating conditions from -20°C to +45°C ambient by a factory fitted, direct acting pressure actuated electronic fan speed controller. The control system shall be complete with input isolator, transducers and electrical wiring.

Water/Glycol Cooled Systems

The indoor evaporator unit shall include a plate heat exchanger fitted with rotalock connections, motorised ball valve and pipework for each refrigeration circuit, complete with refrigerant holding charge. Balancing and isolation valves shall be field supplied and fitted by others.
Note. A strainer with a minumum 1mm mesh (#20) must be field supplied and installed on the supply side of each water circuit by the contractor.

Water Cooled Condenser, 2 (3) Way Motorised Ball Valve with Bypass (Compressorised Systems Only)

The water cooled condenser/heat exchanger shall be of the high efficiency, counterflow, stainless steel brazed plate type rated for 3000 kPa maximum working pressure. Water/glycol flow shall be controlled by a 2-way (3 way) factory fitted, pressure actuated water regulating valve rated for 4000 kPa maximum working pressure. Water/glycol requirements for the unit shall be _____ l/s of _____°C entering water based on a ___ K (°C) rise and produce a maximum pressure drop of 150 kPa.

Water Cooled Condenser, 2 (3)Way Motorised Ball Valve (Dual Cool & Free Cool Units)

The water cooled condenser/heat exchanger shall be of the high efficiency, counterflow, stainless steel brazed plate type rated for 3000 kPa maximum working pressure. Water/glycol flow shall be controlled by a 2-way (3 way) factory fitted, motorised ball valve (MBV) rated for 4000 kPa maximum working pressure.
Water/glycol requirements for the unit shall be _____ l/s of _____°C entering water based on a ___ K (°C) rise and produce a maximum pressure drop of 150 kPa.

Free Cool units

Free cool units shall consist of glycol-water cooled DX compressorized system with the addition of a chilled water econo-coil, a 2 (3) way motorized ball valve and a comparative temperature sensor. The system shall be able to function as a DX system and or a modulating chilled water system. The primary cooling mode shall be DX glycol-water cooled. Switchover between the two cooling modes shall be performed automatically by the control system. The fluid circuit shall include a 2(3) way modulating ball valve designed for up to 4000 kPa. The actuator/valve combination shall have a maximum close off pressure of 1380 kPa. The microprocessor positions the valve in response to room conditions. The Free Cool units function via a field supplied Closed circuit Radiator (RAD) cooler(s) pumps and associated piping and components.

Dual Cool Units

Dual cooling units shall consist of an air or water cooled, compressorised system with the addition of a chilled water econo-coil, a 2(3) way motorised ball valve (MBV) and a comparative temperature sensor. The system shall be able to function as a modulating chilled water system or as a compressorised system. The primary cooling mode shall be chilled water. Switchover between the two cooling modes shall be performed automatically by the iCOM controller. The water circuit shall include a 2(3) way modulating ball valve designed for up to 4000 kPa. The actuator/valve combination shall have a maximum closeoff pressure of 13.8 bar. The microprocessor positions the valve in response to room conditions. Cooling capacity will be controlled by bypassing chilled water around the coil. The modulating valve travel for dehumidification shall be proportional.

UNIT SIZE

Compressorised Systems

The maximum footprint area of the unit shall not exceed:

- 0.75 m^2 up to 35 kW
- 1.50 m^2 above 35 and up to 70 kW
- 2.25 m^2 above 70 and up to 100 kW

The unit shall require 850 mm front access only for routine service and installation work.

ALL SYSTEMS

Water Under Floor Sensor

Each unit shall be supplied with a single water under floor point detector as standard. The sensor shall signal a water under floor alarm to the controller upon detecting water.

iCOM Microprocessor Control with SMALL Graphic Display

The iCOM unit control shall be factory-set for Intelligent Control which uses "fuzzy logic" and "expert systems" methods. Proportional and Tunable PID shall also be user selectable options. Internal unit component control shall include the following:

Compressor Short Cycle Control

Prevents compressor short-cycling and needless compressor wear

System Auto Restart

The auto restart feature will automatically restart the system after a power failure. Time delay is programmable

Sequential Load Activation

On initial startup or restart after power failure, each operational load is sequenced with a minimum of one second delay to minimize total inrush current

Predictive Humidity Control

Calculates the moisture content in the room and prevents unnecessary humidification and dehumidification cycles by responding to changes in dew point temperature

The iCOM control shall be compatible with all Liebert remote monitoring and control devices. Options are available for BMS interface via MODbus, BACNet and SNMP.

The iCOM control processor shall be microprocessor based with a 128x64 dot matrix graphic front monitor display and control keys for user inputs mounted in an ergonomic, aesthetically pleasing housing. The controls shall be menu driven. The display & housing shall be viewable while the unit panels are open or closed.

The display shall be organized into three main sections: User Menus, Service Menus and Advanced Menus. The system shall display user menus for: active alarms, event log, graphic data, unit view/status overview (including the monitoring of room conditions, operational status in % of each function, date and time), total run hours, various sensors, display setup and service contacts. A password shall be required to make system changes within the service menus. Service menus shall include: setpoints, standby settings (lead/lag), timers/ sleep mode, alarm setup, sensor calibration, maintenance/wellness settings, options setup, system/network setup, auxiliary boards and diagnostics/service mode. A password shall be required to access the advanced menus.

User Menus Shall be Defined as Follows:

Active Alarms

Unit memory shall hold the 200 most recent alarms with time and date stamp for each alarm

Event Log

Unit memory shall hold the 400 most recent events with id number, time and date stamp for each event

Graphic Data View

Two graphic records shall be available: return air temperature and return air humidity

Unit View - Status Overview

Simple or Graphical. Unit View summary displays shall include temperature and humidity values, active functions (and percent of operation) and any alarms of the host unit.

Total Run Hours

Menu shall display accumulative component operating hours for major components including compressors, fan motor, humidifier and reheat

Display Setup

Customer shall pre-select the desired grouping of display languages at the time of the order from the following choices: English, French, Italian, Spanish, German, Portugese, Russian, Chech and Chinese

Service Contacts
Menu shall allow display of local service contact details.

Service Menus Shall be Defined as Follows:

Setpoints
Menu shall allow setpoints within the following ranges:
- Temperature Setpoint 18-29°C
- Temperature Sensitivity 0.6-5.6°C
- Humidity Setpoint 20-80% RH*
- Humidity Sensitivity 1-30% RH
- High Temperature Alarm 2-32°C
- Low Temperature Alarm 2-32°C
- High Humidity Alarm 15-85% RH
- Low Humidity Alarm 15-85% RH

**The microprocessor may be set within these ranges, however the unit may not be able to control to extreme combinations of temperature and humidity.*

Standby Settings/Lead-Lag
Menu shall allow planned rotation or emergency rotation of operating and standby units.

Timers/Sleep Mode
Menu shall allow various customer settings for turning on/off unit.

Alarm Setup
Menu shall allow customer settings for alarm notification (audible/local/remote). The following alarms shall be available:
- High Temperature
- Low Temperature
- High Humidity
- Low Humidity
- Compressor Overload (Optional)
- Main Fan Overload (Optional)
- Humidifier Problem
- High Head Pressure
- Change Filter
- Fan Failure
- Low Suction Pressure
- Unit Off

Audible Alarm
The audible alarm shall annunciate any alarm that is enabled by the operator.

Common Alarm
A programmable common alarm shall be provided to interface user selected alarms with a remote alarm device.

Remote Monitoring
All alarms shall be communicated to the Liebert monitoring system with the following information: Date and time of occurrence, unit number and present temperature and humidity.

Sensor Calibration
Menu shall allow unit sensors to be calibrated with external sensors.

Maintenance/Wellness Settings
Menu shall allow reporting of potential component problems before they occur.

Options Setup
Menu shall provide operation settings for the installed components.

System/Network Setup
Menu shall allow Unit-to-Unit (U2U) communication and setup for teamwork modes of operation (up to 32 units).

Teamwork Modes of Operation
Saves energy by preventing operation of units in opposite modes multiple units.

Auxiliary Boards
Menu shall allow setup of optional expansion boards.

Diagnostics/Service Mode
Control input and output values and status shall be displayed to aid in unit diagnostics and troubleshooting. Control inputs shall be indicated as on or off at the front display. Control outputs shall be able to be turned on or off from the front display without using jumpers or a service terminal. Each control output shall be indicated by an LED on a circuit board.

Advanced Menus
Factory Settings
Configuration settings shall be factory-set based on the pre-defined component operation.

UNIT OPTIONS

iCOM Microprocessor Control With LARGE Graphic Display
The iCOM unit control with large graphic display shall include all of the features as the iCOM with small graphic display, except that it includes a larger graphical display and shall include the additional features of: "System View", Spare Parts List, Unit Diary.
The iCOM control processor shall be microprocessor based with a 320x240 dot matrix graphic front monitor display panel and control keys for user inputs mounted in an ergonomic, aesthetically pleasing housing.

System View - Status Overview
"System View" shall display a summary of operation for the total number of operating units within a Unit-to-Unit(U2U) configuration.

Unit Diary
Menu shall include a free field area within the unit memory where unit history may be stored for reference.

iCOM Wall Mount LARGE Graphic Display
The iCOM Large Graphic Display Kit shall include an ergonomic, aesthetically pleasing housing, a 320x240 dot matrix graphic display and a 230V (120V) power supply. The Wall Mount Large Graphic Display shall be used to allow remote location of a "System View" display and all features of the Large Graphic User, Service and Advanced menus for use with Liebert iCOM controlled products connected for Unit-to-Unit (U2U) communications.

vNSA Network Switch
The vNSA network switch is designed to connect multiple iCOM equipped cooling units to form a network and allow the units to communicate and function as a team. Available with or without a Large Graphics Display, the vNSA can support up to 14 Small Graphics Display units. Supplied in a wall mount enclosure with key lock.

The vNSA requires 100-240VAC single phase power for proper operation. A universal power supply (12V, 1.5A) is installed inside the enclosure, with a hard-wired connection for 120V or 230V operation.

IntelliSlot WEB Card
The Liebert IntelliSlot Web card provides HTTP browsing, SNMP and WEB-management capability of Liebert PEX units within your Network Management System (NMS).

IntelliSlot 485 Card
The Liebert IntelliSlot 485 card provides BMS management of Liebert PEX units over EIA-485 via Modbus RTU or Liebert's proprietary protocol for SiteLink connectivity.

iCOM Ethernet Cable
Certified CAT5e patch cable with fully moulded ends used for connecting an iCOM to a network switch. Available in lengths of 10, 15, 20 and 30 metres (33, 50, 65 and 100 feet).

iCOM Ethernet Crossover Cable
Certified CAT5e crossover cable with fully moulded ends for networking 2 Small Graphics Display iCOM units together are available in lengths of 10, 20 and 30 metres.

iCOM - Do Card Option
iCOM - DO card option provides alarm and status outputs for your PEX unit.

Long Line Pipe Kit Option (LLVS) - Air Cooled Systems
A factory fitted liquid line solenoid valve and field installed non-return valve (supplied loose) shall be provided for each refrigeration circuit to prevent liquid refrigerant migration to the evaporator/compressor during off cycles in air cooled installations. *Note: Mandatory for pipe runs in excess of 30 metres.*

Reheat/Humidifier Lockout (Emergency Power Lockout)
A field supplied 24VAC source to field wiring terminals in the electrical panel will lockout the electric heaters and humidifier.

Common Alarm Terminals (Additional)
Extends the standard single common alarm terminal to a total of three (3) voltage independant common alarm terminals (normally open) for remote unit alarm indication. Contacts rated at 24VAC 3 amps.

Liquitect Unit Shutdown Sensor (LT410)
Liquitect signal shuts down unit, and provides one (1) N/O contact for field alarm connection.

Floor Stand
The floor stand shall be constructed from welded galvanised steel. The floor stand shall have adjustable legs and be _____ mm high.

Upflow Unit Plenum with Discharge Grille(s)
The air plenum shall be constructed from 1.2mm zinc coated sheet steel and powder coated in Charcoal Grey colour with a textured finish. The plenum shall be 600mm high or for low ceiling heights an optional 400mm plenum. Double deflection discharge grilles made from aluminium and powder coated black shall be fitted to the front panels.

Air Cooled Condenser Corrosion Protection
A high performance, corrosion resistant pre-coated fin option can be provided for harsh environmental applications. the coating shall have negligable effect on the heat transfer performance.

Unit Installation

To achieve design performance and maximum product life, correct installation is vital. The following information relates specifically to our products and should be applied in conjunction with prevailing industry standards for mechanical and electrical installations. For more detailed information on installing Liebert PEX systems, please refer to the *PEX User* manual.

Air Cooled Systems

The PEX air cooled unit is shipped with a factory holding charge of nitrogen. Each circuit is supplied with quarter turn isolation valves on the liquid and discharge lines to facilitate installation and servicing. The refrigerant piping must be connected in the field to a matched air cooled condenser and then pressure tested, dehydrated and charged with either R22 or R407C refrigerant. In addition the following services are required to make the system operational:

- electrical supply to the indoor unit
- electrical supply to the air cooled condenser
- humidifier/coil drain
- humidifier water supply

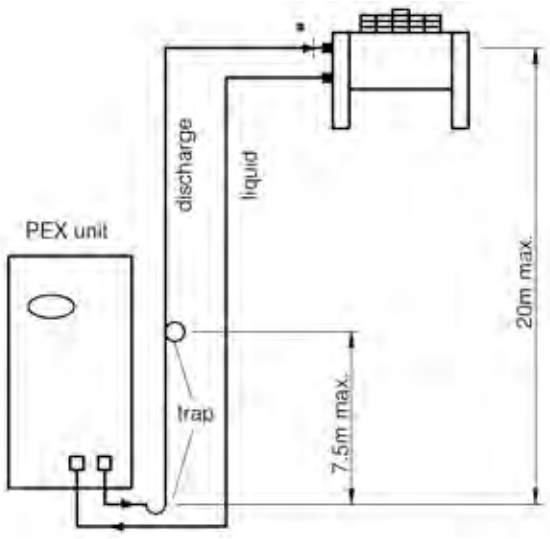
Refrigeration Piping

All refrigeration piping joints shall be high temperature silver brazed. Avoid using solders containing hazardous substances. Any applicable local codes relating to fire safety in terms of pressure relief must be observed. Standard industry procedures must be followed for selection and placement of pipe supports, system evacuation, oil addition and charging with refrigerant. Consideration must be given to pipeline pressure drop, oil return to the compressor, avoidance of oil logging in parts of the system and minimisation of noise and vibration.

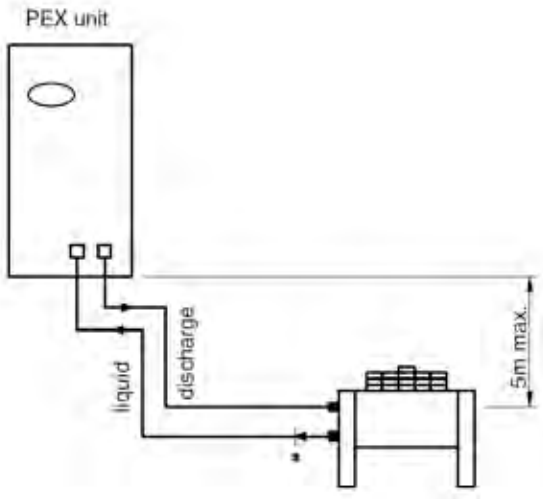
Pipe sizing tables are provided in *PEX User* manual for each model and are for 'equivalent lengths', which include an allowance for bends. They are suggestions only and it is the installer's responsibility to confirm that sizes are appropriate for site conditions.

Note: An optional long-line pipe kit, comprising a liquid line shutoff valve and non-return valve, is required for equivalent lengths in excess of 30 metres. Consult the factory whenever the equivalent length exceeds 60m, or if the vertical separations exceed those shown.*

Compliant Scroll Compressor



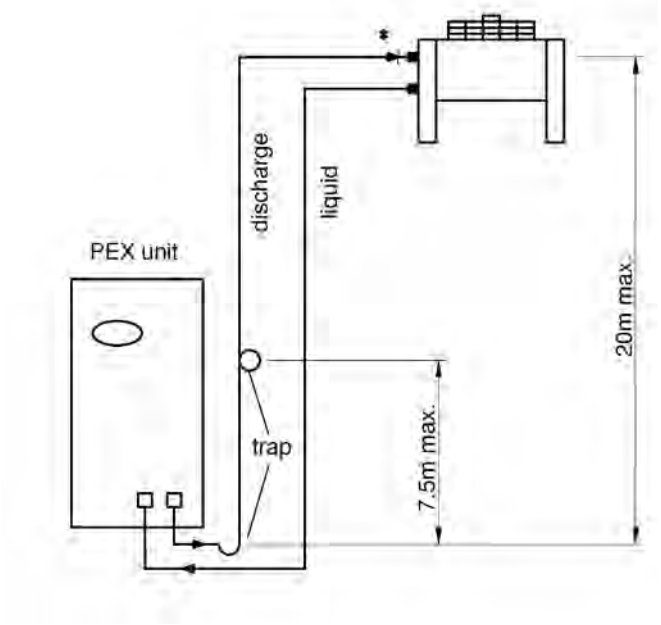
Condenser Located Above PEX Unit:



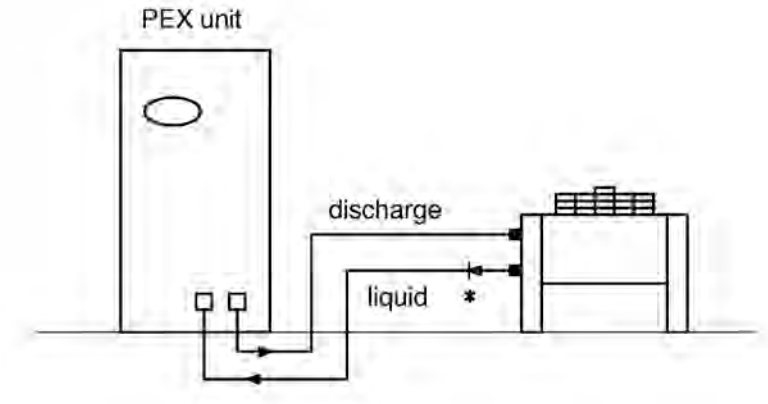
Condenser Located Below PEX Unit:

Digital Scroll System

Condenser Located Above PEX Unit for Digital Scroll Compressor



Condenser Located on PEX Unit Level for Digital Scroll Compressor



Level

Discharge line
Discharge lines should be insulated where they are routed in the conditioned space (including under a raised floor). Traps must be fitted in vertical risers every 7.5 metres and at the base of a riser. Slope discharge lines in the direction of refrigerant flow.

Liquid line
Liquid lines should not be exposed to any heat sources and should be insulated.

Air cooled condenser location
Condensers should be located for maximum security and maintenance accessibility. Vertical or horizontal discharge condensers may be used. The surrounding area should be clean and away from trees, loose dirt and building exhausts.

Please refer to the air cooled condenser technical data manual for more information including dimensions, weights and connection sizes.

Water Cooled Systems

The PEX water or glycol cooled unit is shipped with a factory charged refrigeration system of either R22 or R407C, and includes a brazed plate stainless steel plate heat exchanger and 2 or 3 way water regulating control valve per circuit. In addition the following services are required to make the system operational:

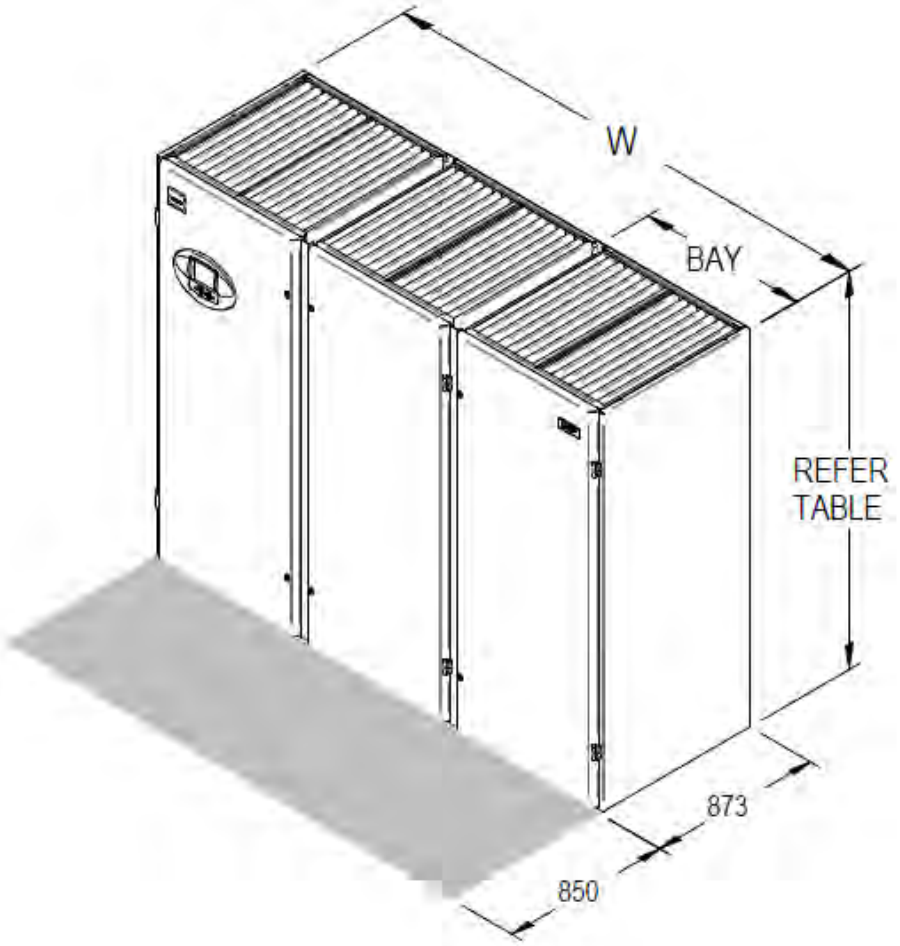
- electrical supply to the indoor unit
- humidifier drains
- condenser water supply
- humidifier water supply

Water Cooled Piping
A strainer with a 1mm mesh (#20) and isolation valves on either side, **must** be fitted to the condenser water supply for each unit. A balancing valve is also recommended for each circuit as a minimum to provide adjustment of condenser water flow rates.
Refer to *PEX User* manual for further information.

Humidifier / Drain

A water supply and drain connection is required for each unit. Drain lines should be copper and comply with local regulations and building codes. Refer to *PEX User* manual for further information.

Unit Dimensions & Service Access

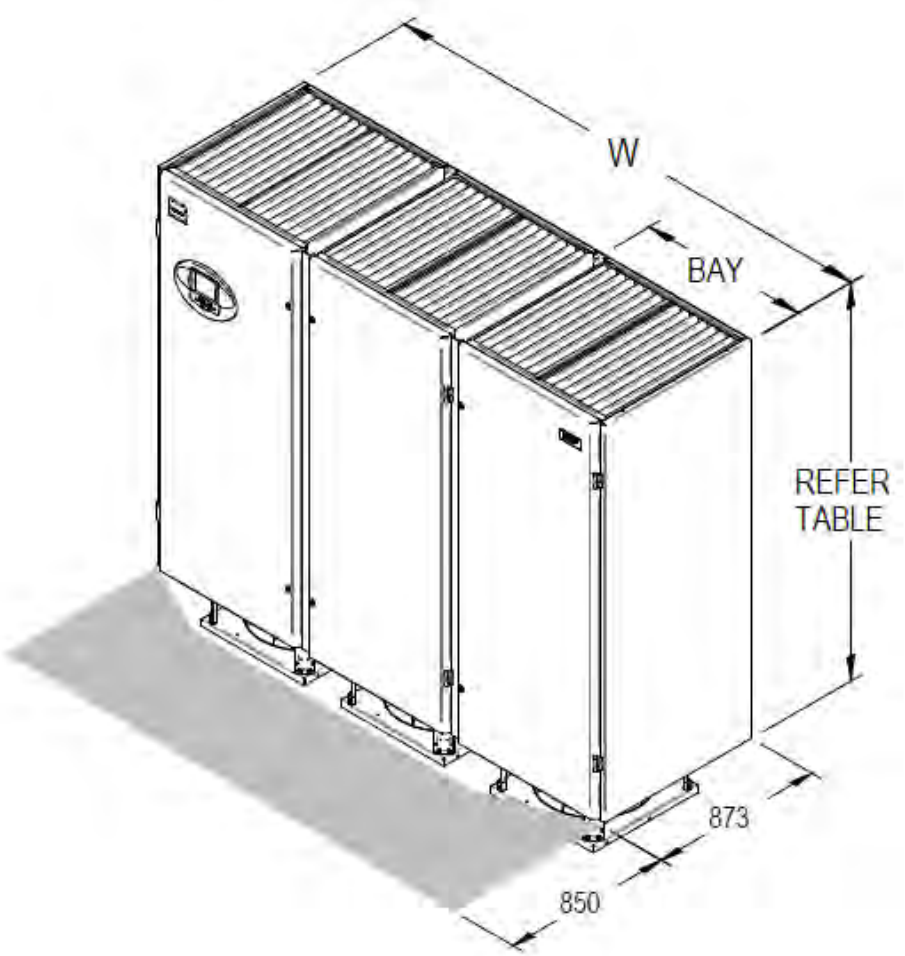


PEX Large Frame - Downflow Unit Forward Curve Fans
FOR RAISED FLOOR APPLICATIONS

- **A** Air Cooled
- **W** Water Cooled
- **G** Glycol Cooled
- **D** Dual Cool - Chilled Water & Air Cooled
- **H** Dual Cool - Chilled Water & Water Cooled
- **F** Free Cool

Model	Dimensions in mm			Model	Dimensions in mm		
A/W/G	W	D	H	D/H/F	W	D	H
1020	853	873	1970	1020	853	873	1970
1025	853	873	1970	1025	853	873	1970
1030	853	873	1970	1030	853	873	1970
1035	853	873	1970	2035	1703	873	1970
2035	1703	873	1970	2045	1703	873	1970
2045	1703	873	1970	2055	1703	873	1970
2055	1703	873	1970	2040	1703	873	1970
2040	1703	873	1970	2050	1703	873	1970
2050	1703	873	1970	2060	1703	873	1970
2060	1703	873	1970	2070	1703	873	2070
2070	1703	873	1970	3070	2553	873	1970
3070	2553	873	1970	3080	2553	873	1970
3080	2553	873	1970	3090	2553	873	1970
3090	2553	873	1970	3100	2553	873	2070
3100	2553	873	1970				

Unit Dimensions & Service Access

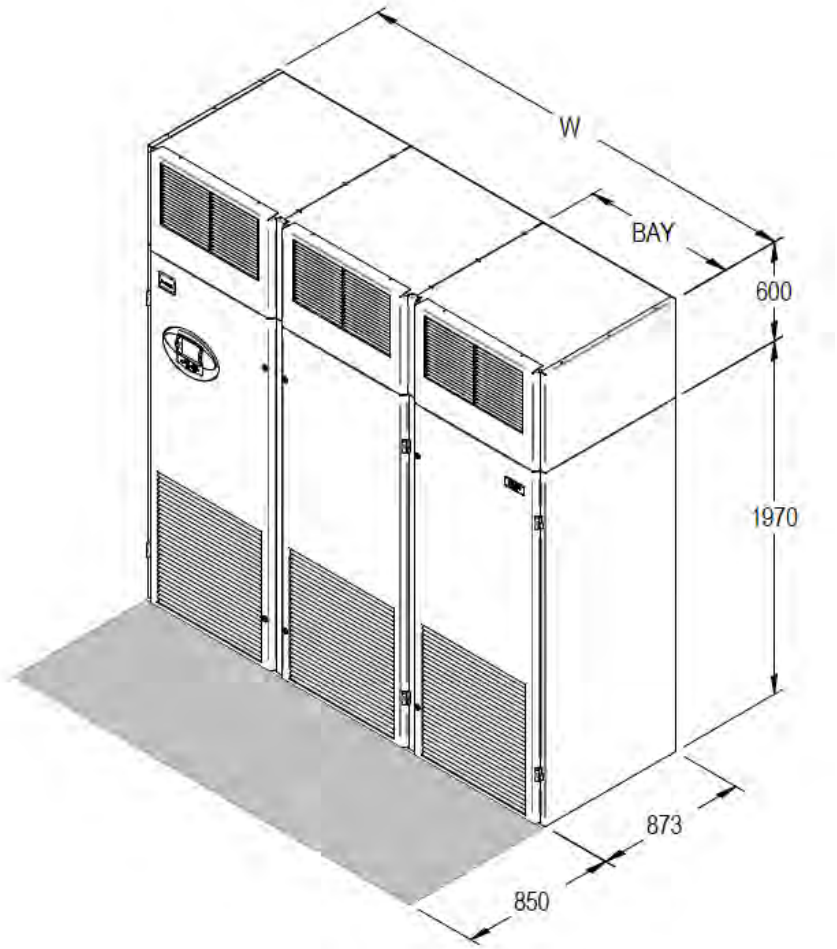


PEX Large Frame - Downflow Unit EC Backward Curve Fans
FOR RAISED FLOOR APPLICATIONS

- **A** Air Cooled
- **W** Water Cooled
- **G** Glycol Cooled
- **D** Dual Cool - Chilled Water & Air Cooled
- **H** Dual Cool - Chilled Water & Water Cooled
- **F** Free Cool

Model	Dimensions in mm			Model	Dimensions in mm		
A/W/G	W	D	H	D/H/F	W	D	H
1020	853	873	1970	1020	853	873	1970
1025	853	873	1970	1025	853	873	1970
1030	853	873	1970	1030	853	873	1970
1035	853	873	1970	2035	1703	873	1970
2035	1703	873	1970	2045	1703	873	1970
2045	1703	873	1970	2055	1703	873	1970
2055	1703	873	1970	2040	1703	873	1970
2040	1703	873	1970	2050	1703	873	1970
2050	1703	873	1970	2060	1703	873	1970
2060	1703	873	1970	2070	1703	873	2070
2070	1703	873	1970	3070	2553	873	1970
3070	2553	873	1970	3080	2553	873	1970
3080	2553	873	1970	3090	2553	873	1970
3090	2553	873	1970	3100	2553	873	2070
3100	2553	873	1970				

Unit Dimensions & Service Access



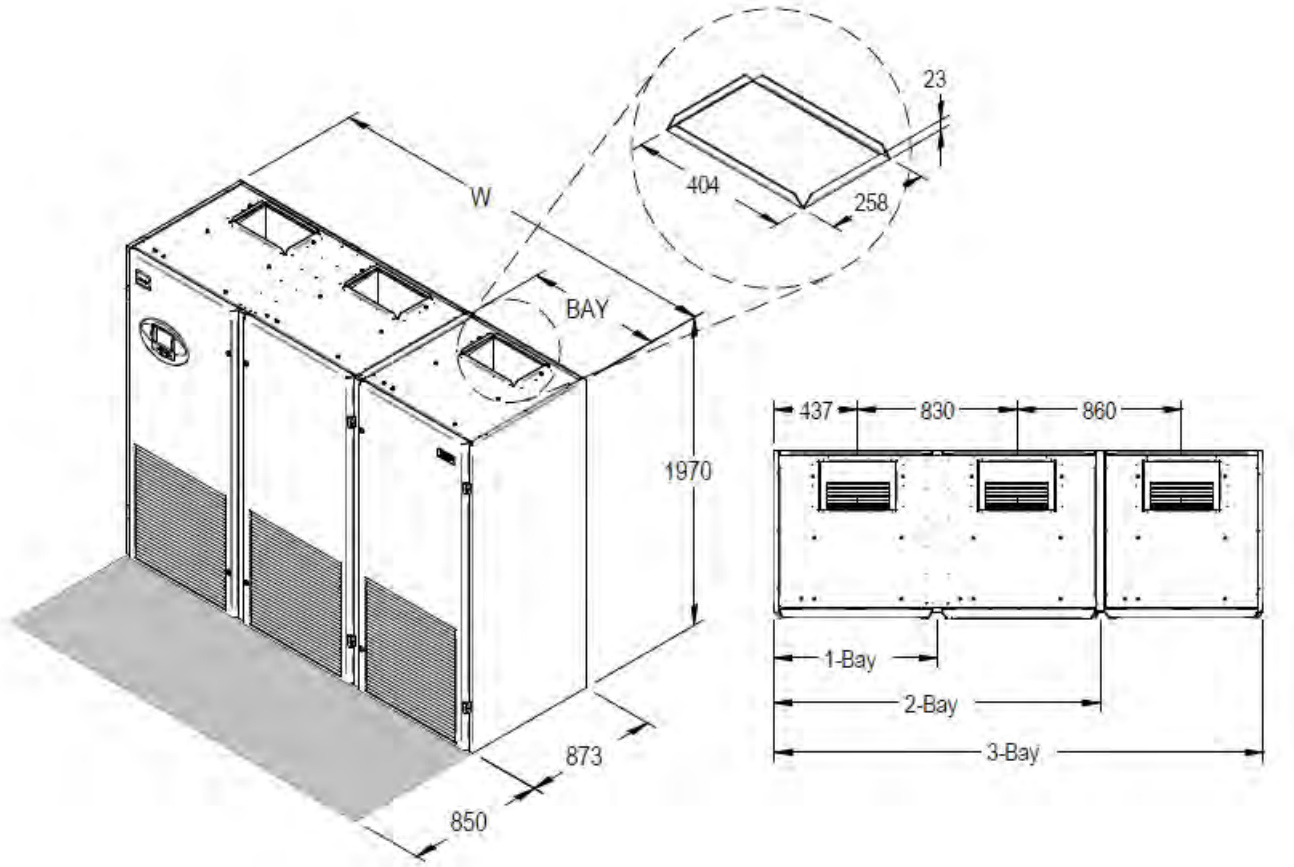
PEX Large Frame - Upflow Unit FC Forward / EC Backward Curve Fans
FOR PLENUM APPLICATIONS *(Plenum shown is optional)*

Model	Dimensions in mm		
A/W/G/D/H/F	W	D	H
1020	853	873	1970
1025	853	873	1970
1030	853	873	1970
1035	853	873	1970
2035	1703	873	1970
2045	1703	873	1970
2055	1703	873	1970
2040	1703	873	1970
2050	1703	873	1970
2060	1703	873	1970
2070	1703	873	1970
3070	2553	873	1970
3080	2553	873	1970
3090	2553	873	1970
3100	2553	873	1970

- **A** Air Cooled
- **W** Water Cooled
- **G** Glycol Cooled

- **D** Dual Cool - Chilled Water & Air Cooled
- **H** Dual Cool - Chilled Water & Water Cooled
- **F** Free Cool

Unit Dimensions & Service Access

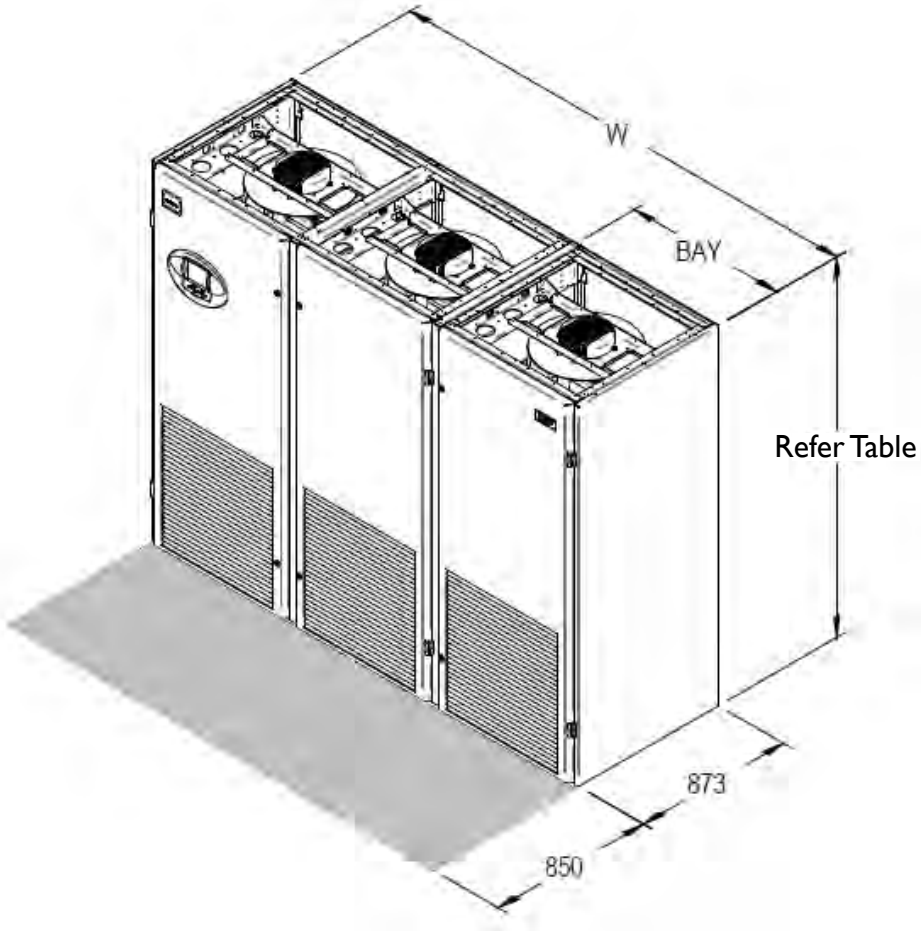


PEX Large Frame - Upflow Unit Forward Curve Fans
FOR DUCTED APPLICATIONS

Model	Dimensions in mm		
A/W/G/D/H/F	W	D	H
1020	853	873	1970
1025	853	873	1970
1030	853	873	1970
1035	853	873	1970
2035	1703	873	1970
2045	1703	873	1970
2055	1703	873	1970
2040	1703	873	1970
2050	1703	873	1970
2060	1703	873	1970
2070	1703	873	1970
3070	2553	873	1970
3080	2553	873	1970
3090	2553	873	1970
3100	2553	873	1970

- **A** Air Cooled
- **W** Water Cooled
- **G** Glycol Cooled
- **D** Dual Cool - Chilled Water & Air Cooled
- **H** Dual Cool - Chilled Water & Water Cooled
- **F** Free Cool

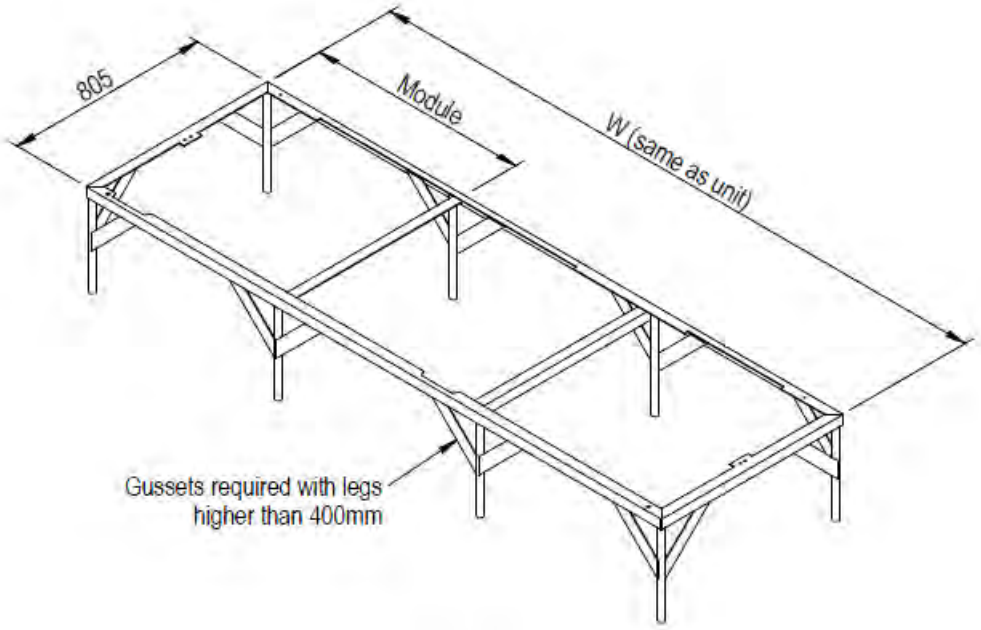
Unit Dimensions & Service Access



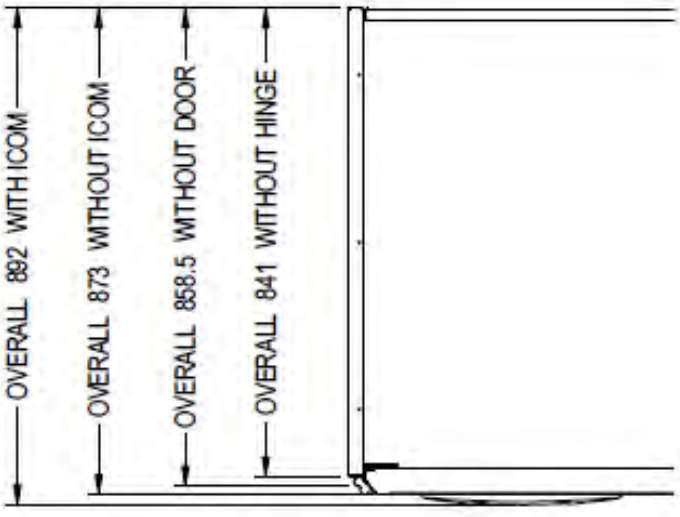
PEX Large Frame - Upflow Unit EC Backward Curve Fans
FOR DUCTED APPLICATIONS

Model	Dimensions in mm		
A/W/G/D/H/F	W	D	H
1020	853	873	1970
1025	853	873	1970
1030	853	873	1970
1035	853	873	1970
2035	1703	873	1970
2045	1703	873	1970
2055	1703	873	1970
2040	1703	873	1970
2050	1703	873	1970
2060	1703	873	1970
2070	1703	873	1970
3070	2553	873	1970
3080	2553	873	1970
3090	2553	873	1970
3100	2553	873	1970

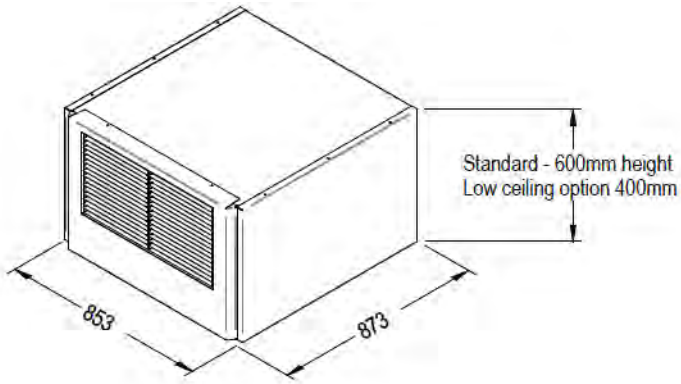
- **A** Air Cooled
- **W** Water Cooled
- **G** Glycol Cooled
- **D** Dual Cool - Chilled Water & Air Cooled
- **H** Dual Cool - Chilled Water & Water Cooled
- **F** Free Cool

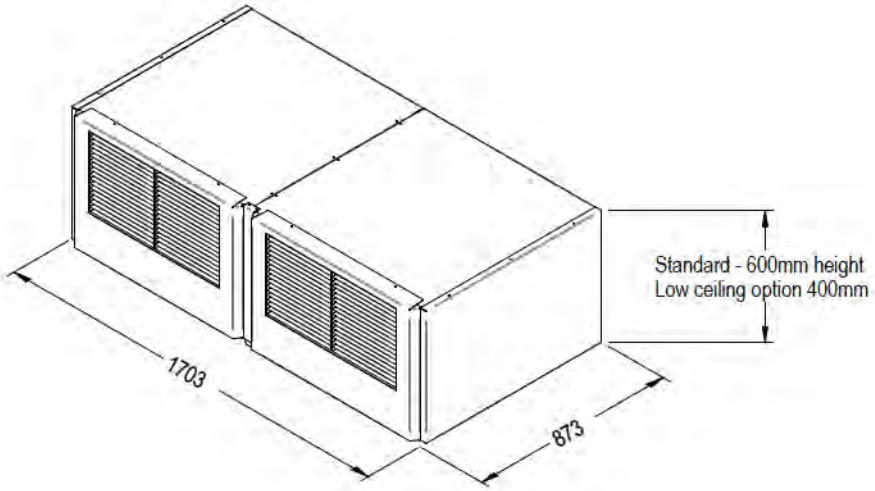


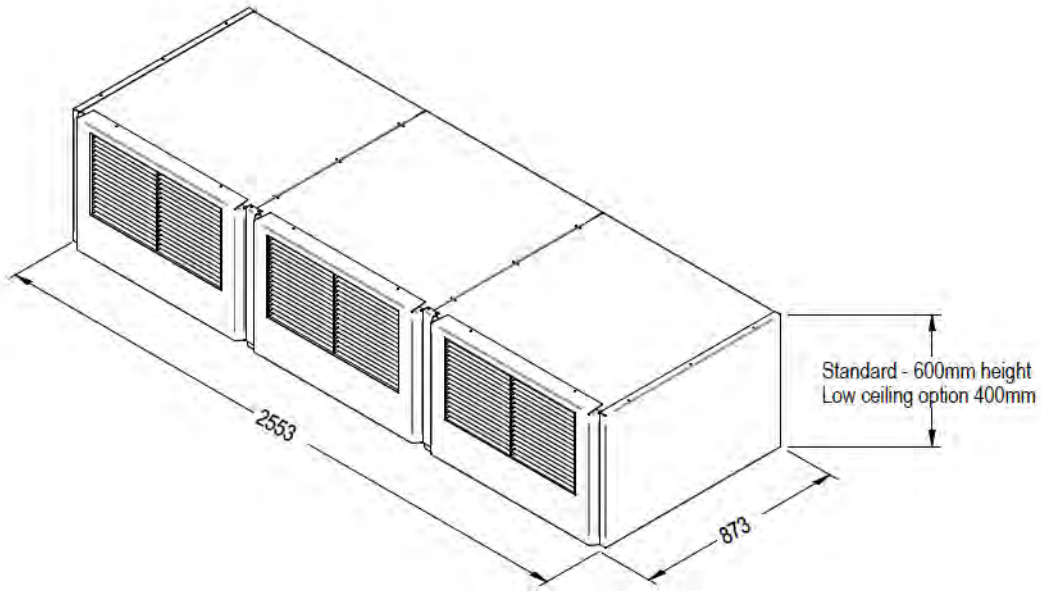
FLOORSTAND
(Optional)



DETAIL A - (TOP VIEW)


Standard - 600mm height
Low ceiling option 400mm
853
873


Standard - 600mm height
Low ceiling option 400mm
1703
873


Standard - 600mm height
Low ceiling option 400mm
2553
873

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